

AD-A144 786

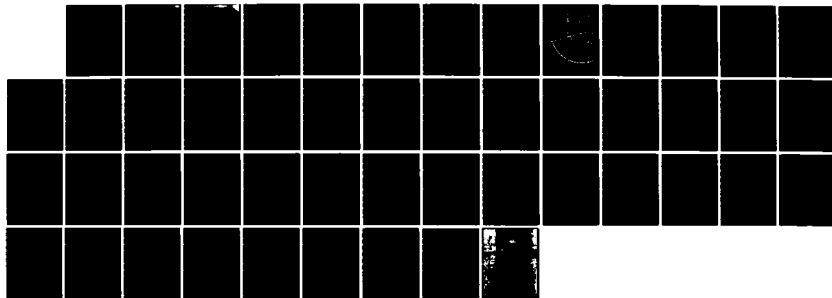
19320BT MLRS MISSILE NUMBER 426 497 392 473 442 ROUND
NUMBER V600/AV-13 T. (U) ARMY ELECTRONICS COMMAND WHITE
SANDS MISSILE RANGE N MEX ATMO. D C KELLER JUL 84
ERADCOM/ASL-DR-1349

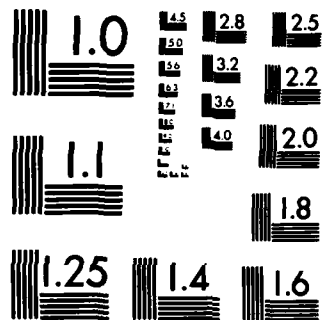
1/1

UNCLASSIFIED

F/G 4/2

NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

DR 1349
Jul 84

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

AD

AD-A144 786

METEOROLOGICAL DATA REPORT
19320BT MLRS
Missile Number 426, 497, 392, 473, 442
Round Number V608/AV-13 thru V612/AV-17
2 July 1984

by

DONALD C. KELLER
Program Support Coordinator
Phone Number (505) 679-9568
AVN Number 349-9568

ATMOSPHERIC SCIENCE LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM

UNITED STATES ARMY ELECTRONICS COMMAND



E

20

DISPOSITION INSTRUCTIONS

Destroy this report when it is no longer needed. Do not return to the originator.

DISCLAIMER

The findings in this report are not to be construed as an official Department of the Army position, unless so designated by other authorized documents.

The citation of trade names and names of manufacturers in this report is not to be construed as official Government indorsement or approval of commercial products or services referred to herein.

| REPORT DOCUMENTATION PAGE | | READ INSTRUCTIONS BEFORE COMPLETING FORM |
|--|--|---|
| 1. REPORT NUMBER DR-1349 | 2. GOVT ACCESSION NO. AD-A144786 | 3. RECIPIENT'S CATALOG NUMBER |
| 4. TITLE (and Subtitle) 19320BT MLRS Missile Number 426, 497, 392, 473, 442 Round Number V608/AV-13 thru V612/AV-17 | | 5. TYPE OF REPORT & PERIOD COVERED |
| | | 6. PERFORMING ORG. REPORT NUMBER |
| 7. AUTHOR(s) White Sands Meteorological Team | | 8. CONTRACT OR GRANT NUMBER(s) DA Task 1F665702D127-02 |
| 9. PERFORMING ORGANIZATION NAME AND ADDRESS | | 10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS |
| 11. CONTROLLING OFFICE NAME AND ADDRESS US Army Electronics Research & Development Cmd Atmospheric Sciences Laboratory White Sands Missile Range, New Mexico 88002 | | 12. REPORT DATE Jul 84 |
| | | 13. NUMBER OF PAGES |
| 14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) US Army Electronics Research and Development Cmd Adelphi, MD 20783 | | 15. SECURITY CLASS. (of this report) UNCLASSIFIED |
| | | 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE |
| 16. DISTRIBUTION STATEMENT (of this Report) | | |
| 17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) Approved for public release; distribution unlimited. | | |
| 18. SUPPLEMENTARY NOTES | | |
| 19. KEY WORDS (Continue on reverse side if necessary and identify by block number) | | |
| 20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 19320 BT MLRS, Missile Number 426, 497, 392, 473, 442, Round Number V608/AV-13 thru V612/AV-17 are presented in tabular form. | | |

CONTENTS

| | PAGE |
|--|------|
| INTRODUCTION ----- | 1 |
| DISCUSSION ----- | 1 |
| GENERAL AREA MAP ----- | 2 |
| LAUNCH AREA DIAGRAM ----- | 3 |
| TABLES: | |
| 1. Surface Observation Taken at 1319 MDT at LC-33 ----- | 4 |
| 2. Surface Observation Taken at 1319 MDT at Don Site ----- | 5 |
| 3. Launch Area Pilot-Balloon Measured Wind Data ----- | 6 |
| 4. Aiming and T-Time Computer Met Message Data ----- | 7 |
| 5. WSD Significant Level Data at 1000 MDT ----- | 8 |
| 6. WSD Upper Air Data at 1000 MDT ----- | 9 |
| 7. WSD Mandatory Levels at 1000 MDT ----- | 11 |
| 8. SMR Significant Level Data at 1000 MDT ----- | 12 |
| 9. SMR Upper Air Data at 1000 MDT ----- | 13 |
| 10. SMR Mandatory Levels at 1000 MDT ----- | 15 |
| 11. DON Significant Level Data at 1000 MDT ----- | 16 |
| 12. DON Upper Air Data at 1000 MDT ----- | 17 |
| 13. DON Mandatory Levels at 1000 MDT ----- | 19 |
| 14. WSD Significant Level Data at 1130 MDT ----- | 20 |
| 15. WSD Upper Air Data at 1130 MDT ----- | 21 |
| 16. WSD Mandatory Levels at 1130 MDT ----- | 23 |
| 17. SMR Significant Level Data at 1130 MDT ----- | 24 |
| 18. SMR Upper Air Data at 1130 MDT ----- | 25 |
| 19. SMR Mandatory Levels at 1130 MDT ----- | 27 |
| 20. DON Significant Level Data at 1130 MDT ----- | 28 |
| 21. DON Upper Air Data at 1130 MDT ----- | 29 |
| 22. DON Mandatory Levels at 1130 MDT ----- | 31 |

| | | |
|-----|--|----|
| 23. | WSD Significant Level Data at 1319 MDT ----- | 32 |
| 24. | WSD Upper Air Data at 1319 MDT ----- | 33 |
| 25. | WSD Mandatory Levels at 1319 MDT ----- | 35 |
| 26. | SMR Significant Level Data at 1319 MDT ----- | 36 |
| 27. | SMR Upper Air Data at 1319 MDT ----- | 37 |
| 28. | SMR Mandatory Levels at 1319 MDT ----- | 39 |
| 29. | DON Significant Level Data at 1319 MDT ----- | 40 |
| 30. | DON Upper Air Data at 1319 MDT ----- | 41 |
| 31. | DON Mandatory Levels at 1319 MDT ----- | 43 |

| | |
|--------------------|-------------------------------------|
| Accession For | |
| NTIS GRA&I | <input checked="" type="checkbox"/> |
| DTIC TAB | <input type="checkbox"/> |
| Unannounced | <input type="checkbox"/> |
| Justification | |
| By | |
| Distribution/ | |
| Availability Codes | |
| Dist | Avail and/or Special |
| A-1 | |



INTRODUCTION

19320BT MLRS, Missile Numbers 426, 497, 392, 473, and 442, Round Numbers V608/AV-13 thru V612/AV-17, were launched from LC-33, White Sands Missile Range (WSMR). New Mexico, at 1318:47, 1318:52, 1318:56, 1319:01, and 1319:05 MDT, 2 Jul 84. The scheduled launch times were 1300 MDT with a 4.5 second separation.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction and speed and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Speed and direction from one anemometer was provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from pilot-balloon observations at:

SITE AND ALTITUDE

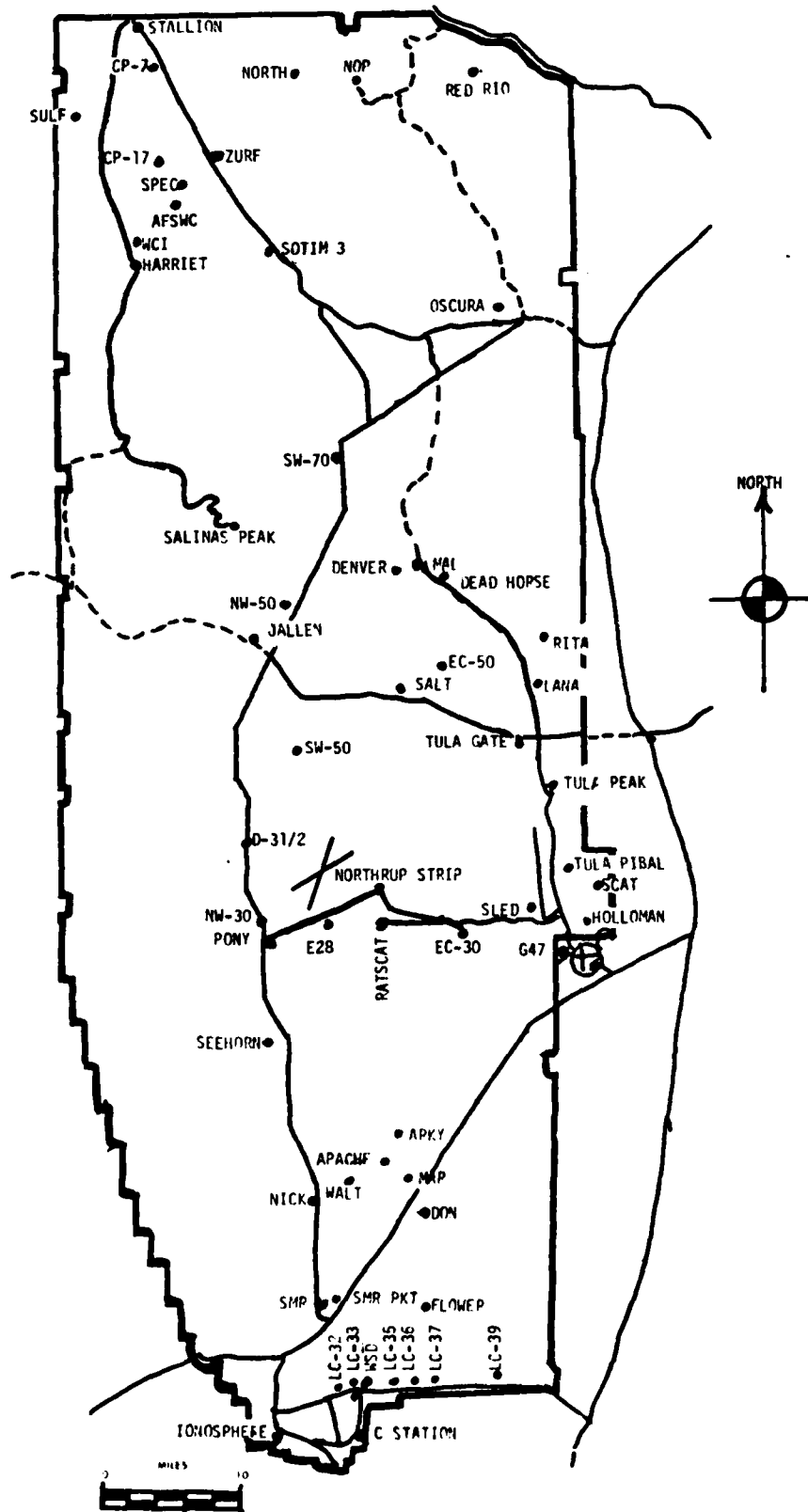
LC-33 2 km

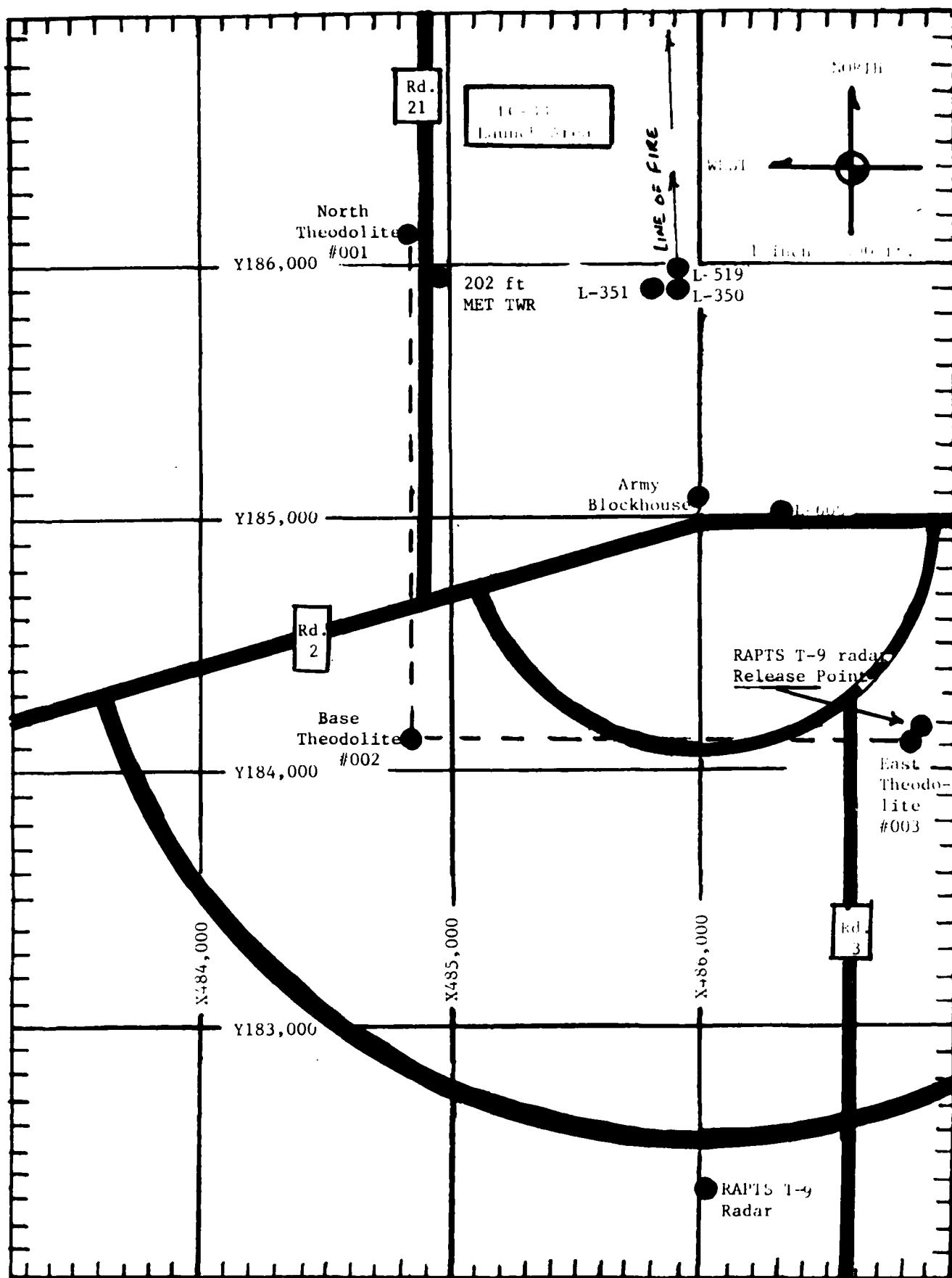
(2) Air structure data (rawinsonde) were collected at the following Met Sites.

SITE AND TIME

WSD 1000, 1130 and 1319 MDT
SMR 1000, 1130 and 1319 MDT
DON 1000, 1130 and 1319 MDT

WSMR METEOROLOGICAL SITES





PROJECT SURFACE OBSERVATION

TABLE 1
 DATE MONTH YEAR
 STATION LC-33 (E&A)
 Y = 484,982.64 X = 185,957.73 H = 3,995.00

| TIME M D Y | PRESSURE mb | TEMPERATURE °C | DEW POINT °C | RELATIVE HUMIDITY % | DENSITY gm/cm ³ | WIND | | | VISIBIL- ITY |
|---------------|----------------|-------------------|-----------------|---------------------------|-------------------------------|-------------------|--------------|------------------|-----------------|
| | | | | | | DIRECTION degs | SPEED kts | CHARACTER kts | |
| 1319 | 880.3 | 32.6 | 14.4 | 33 | | 180 | 04 | | 40 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

| OBSTRUCTIONS TO VISIBILITY | CLOUDS | | | | | | | | | REMARKS | | | |
|-------------------------------|-----------|------|------|-----------|------|-------|-----------|------|-------|---------|------|-------|------------|
| | 1st LAYER | | | 2nd LAYER | | | 3rd LAYER | | | | | | |
| | AMT | TYPE | HGT | AMT | TYPE | HGT | AMT | TYPE | HGT | ATN | TYPE | HGT | |
| | 1 | cu | 6500 | 1 | AS | 10000 | 1 | AC | 12000 | 5 | CI | 25000 | CB E MOWGS |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

PSYCHROMETRIC COMPUTATION

| | |
|-----------------|------|
| TIME: MDT | 1319 |
| DRY BULB TEMP. | 32.6 |
| WET BULB TEMP. | 20.1 |
| WET BULB DEPR. | 12.5 |
| DEW POINT | 14.4 |
| RELATIVE HUMID. | 33 |

PERFECT SURFACE OBSERVATION

| TABLE 2 | | | | | | | | | |
|---|-----------------|-------------------|-----------------|---------------------------|-----------------------------|-------------------|----------------------|------------------|------------|
| STATION: DON | | | | | | | | | |
| DATE: 1951.001.22 Y= 247.494.53 H= 4003.74 ft | | | | | | | | | |
| TIME M D T | PRESSURE hPa | TEMPERATURE °C | DEW POINT °C | RELATIVE HUMIDITY % | DENSITY g/m ³ | DIRECTION degs | WIND SPEED kts | CHARACTER kts | VISIBILITY |
| 1319 | 878.9 | 31.5 | 14.2 | 35 | | 180 | 12 | | 35 |
| | | | | | | | | | |
| | | | | | | | | | |

| OBSTRUCTIONS TO VISIBILITY | CLOUDS | | | | | | REMARKS | | |
|-------------------------------|-----------|------|-----------|------|-----------|------|---------|-------|-----------------|
| | 1st LAYER | | 2nd LAYER | | 3rd LAYER | | | | |
| | AMT | TYPE | AMT | TYPE | AMT | TYPE | | | |
| 1 | CB | 6500 | 1 | AC | 12000 | 4 | CS | 25000 | CB E MOVMT UNKN |
| | | | | | | | | | |
| | | | | | | | | | |

PSYCHROMETRIC COMPUTATION

| | | | |
|-----------------|-----|------|--|
| TIME: | MDT | 1319 | |
| DRY BULB TEMP. | | 31.5 | |
| WET BULB TEMP. | | 19.7 | |
| WET BULB DEPR. | | 11.8 | |
| DEW POINT | | 14.2 | |
| RELATIVE HUMID. | | 35 | |

TABLE 3

LAUNCH AREA PILOT-BALLOON MEASURED WIND DATA

02 July 1984

LC-33 RAPTS T-9 RADAR WSTM X= 486,037.24 Y= 182,350.16 H= 3977.30

| TIME (MDT) | 1223 MDT | | 1246 MDT | | 1324 MDT | |
|------------------------------|-------------|----------------|-------------|----------------|-------------|----------------|
| LAYER MIDPOINT METERS AGL | DIR DEGS | SPEED KNOTS | DIR DEGS | SPEED KNOTS | DIR DEGS | SPEED KNOTS |
| SURFACE | 190 | 03 | 200 | 05 | 180 | 04 |
| 150 | 112 | 01 | MISC | MISC | MISC | MISC |
| 210 | 145 | 06 | 136 | 06 | MISC | MISC |
| 270 | 158 | 07 | 145 | 09 | 151 | 09 |
| 330 | 133 | 04 | 154 | 12 | 150 | 07 |
| 390 | 150 | 06 | 151 | 08 | 127 | 09 |
| 500 | 153 | 06 | 158 | 06 | 145 | 07 |
| 650 | 161 | 07 | 161 | 07 | 164 | 06 |
| 800 | 155 | 07 | 169 | 04 | 171 | 10 |
| 950 | 130 | 07 | 164 | 06 | 172 | 08 |
| 1150 | 133 | 03 | 169 | 04 | 182 | 06 |
| 1350 | 167 | 04 | 276 | 01 | 223 | 04 |
| 1550 | 241 | 04 | 235 | 08 | 248 | 05 |
| 1750 | 238 | 07 | 259 | 11 | 269 | 14 |
| 2000 | 266 | 11 | 276 | 12 | 283 | 10 |

ALL DATA OBTAINED FROM RAPTS T-9 RADAR TRACKED PILOT-BALLOON OBSERVATIONS

TABLE 4

AIMING AND T-TIME COMPUTER MET MESSAGE DATA
2 July 1984

| | | | |
|-------------------|-------------------|-------------------|-------------------|
| WSD 1000 MDT | SMR 1000 MDT | DON 1000 MDT | WSD 1130 MDT |
| METCM1324064 | METCM1325064 | METCM1326063 | METCM1324064 |
| 021600122882 | 021600122882 | 021600123880 | 021750122881 |
| 00238004 30020882 | 00249004 30140882 | 00320014 30100880 | 00320008 30350881 |
| 01293006 29910872 | 01285007 29960872 | 01317015 29890870 | 01313008 30170871 |
| 02278005 29630847 | 02290010 29650847 | 02293016 29540845 | 02348006 29900847 |
| 03302011 29330809 | 03311013 29360809 | 03299015 29200807 | 03285008 29410809 |
| 04367015 29100763 | 04363013 29170763 | 04386011 29160761 | 04423008 29160763 |
| 05440009 28780719 | 06440011 28810719 | 05448009 28770718 | 05466008 28780719 |
| 06495010 28400677 | 06484011 28380678 | 06500010 28360676 | 06530011 28380678 |
| 07579008 27990638 | 07588009 27980638 | 07569009 27980636 | 07599010 28090638 |
| 08020011 27620600 | 08639011 27580600 | 08638012 27600599 | 08035009 27690600 |
| 09078014 27250564 | 09064014 27190564 | 09067014 27220563 | 09081011 27290564 |
| 10104007 26940529 | 10092012 26860529 | 10079012 26860528 | 10122005 26910530 |
| 11011006 26580497 | 11067015 26520497 | 11079009 26490496 | 11187003 26570497 |
| 12117005 26190451 | 12515002 26120451 | 12506003 26130450 | 12453006 26190451 |
| SMR 1130 MDT | DON 1130 MDT | WSD 1319 MDT | SMR 1319 MDT |
| METCM1325064 | METCM1326063 | METCM1324064 | METCM1325064 |
| 021750122881 | 021750123880 | 021930122880 | 021930122880 |
| 00213006 30450881 | 00302013 30410880 | 00267008 30670880 | 00320008 30520880 |
| 01301009 30090871 | 01241008 30080870 | 01291008 30440870 | 01319013 30320870 |
| 02322008 29760847 | 02266010 29760845 | 02289007 30050846 | 02329011 30100846 |
| 03323009 29390809 | 03311011 29390807 | 03327008 29680808 | 03367008 29730808 |
| 04415008 29100763 | 04425011 29160762 | 04427006 29240763 | 04427006 29280763 |
| 05499010 28800719 | 05486009 28830718 | 05530012 28860719 | 05520014 28870720 |
| 06541010 28420678 | 06537010 28440677 | 06585011 28440678 | 06633010 28510678 |
| 07597011 28030638 | 07617010 28040637 | 07021008 27990638 | 07035011 28080638 |
| 08044010 27640600 | 08047011 27650599 | 08070010 27540600 | 08080011 27630601 |
| 09110010 27280564 | 09100011 27260563 | 09098008 27220564 | 09096007 27260564 |
| 10128007 26980530 | 10072006 26910529 | 10018006 26960530 | 10628006 26980530 |
| 11152005 26680497 | 11108001 26540496 | 11542007 26660497 | 11552007 26720497 |
| 12454007 26060451 | 12474007 26190450 | 12463008 26300451 | 12468009 26300452 |
| DON 1319 MDT | | | |
| METCM1326063 | | | |
| 021930123879 | | | |
| 00320012 30690879 | | | |
| 01316014 30430869 | | | |
| 02304010 30060845 | | | |
| 03332009 29670807 | | | |
| 04407007 29200762 | | | |
| 05547010 28860718 | | | |
| 06624009 28500677 | | | |
| 07008009 28070637 | | | |
| 08077009 27650599 | | | |
| 09098008 27290563 | | | |
| 10632005 26980529 | | | |
| 11562006 26700497 | | | |
| 12476011 26380451 | | | |

STATION ALTITUDE 3000.00 FEET MSL
 2 JULY 64
 ASCENSION NO. 1000 MDT

SIGNIFICANT CYCLE DATA
 1640032160
 WHITE SANDS

GEODETIC COORDINATES
 12.40047 LAT DEG
 104.37037 LON DEG

TABLE 5

| PRECIPITATION ALTITUDE WILLIAMS MSL FEET | TEMPERATURE ATP DEWPOINT DEGREES CENTIGRADE | REL. HUM. PERCENT |
|--|---|----------------------|
| 98.0 | 75.0 | 51.0 |
| 97.0 | 73.0 | 54.0 |
| 96.0 | 71.3 | 59.0 |
| 91.0 | 68.5 | 43.0 |
| 74.0 | 65.4 | 52.0 |
| 70.0 | 63.3 | 57.0 |
| 68.0 | 62.2 | 62.0 |
| 65.0 | 61.1 | 77.0 |
| 62.0 | 60.0 | 81.0 |
| 59.0 | 58.9 | 88.0 |
| 56.0 | 57.8 | 79.0 |
| 53.0 | 56.7 | 89.0 |
| 50.0 | 55.6 | 90.0 |
| 47.0 | 54.5 | 81.0 |
| 44.0 | 53.4 | 85.0 |
| 41.0 | 52.3 | 81.0 |

STATION ALTITUDE 3000.00 FEET MSL
 2 JULY 64 1000 MDT
 ASCENSION NO. 159
 UPPER AIR DATA
 104000158
 WHITE SANDS
 GEOMETRIC COORDINATES
 32.4004° LAT NEG
 106.7703° LONG DEG

TABLE 6

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | TEMPERATURE °C | REL. HUM. PERCENT | DENSITY GM/CM ³ | SPEED OF SOUND KNOTS | WIND DATA DIRECTION (°N) SPEED KNOTS | INDEX OF REFRACTION |
|--------------------------------|-----------------------|-------------------|----------------------|-------------------------------|-------------------------|---|------------------------|
| 3050.0 | 804.5 | 75.0 | 51.0 | 1022.8 | 675.0 | 134.0 | 1.000207 |
| 3000.0 | 801.2 | 75.0 | 51.0 | 1022.6 | 675.0 | 134.0 | 1.000207 |
| 2950.0 | 805.0 | 73.2 | 51.1 | 1010.0 | 673.0 | 145.0 | 1.000203 |
| 2900.0 | 801.0 | 71.4 | 55.3 | 990.7 | 670.9 | 152.5 | 1.000208 |
| 2850.0 | 805.1 | 70.2 | 40.6 | 984.8 | 669.4 | 157.0 | 1.000283 |
| 2800.0 | 811.5 | 70.0 | 42.3 | 973.6 | 668.0 | 164.0 | 1.000278 |
| 2750.0 | 807.1 | 68.2 | 41.8 | 959.7 | 667.0 | 174.8 | 1.000271 |
| 2700.0 | 805.8 | 67.6 | 50.8 | 944.8 | 666.2 | 185.4 | 1.000264 |
| 2650.0 | 798.8 | 67.0 | 57.7 | 930.0 | 665.6 | 194.8 | 1.000258 |
| 2600.0 | 785.1 | 66.4 | 55.6 | 915.7 | 664.6 | 203.7 | 1.000251 |
| 2550.0 | 781.6 | 65.8 | 53.5 | 901.4 | 663.0 | 213.7 | 1.000245 |
| 2500.0 | 779.7 | 65.1 | 52.6 | 888.3 | 662.0 | 224.8 | 1.000239 |
| 2450.0 | 775.1 | 63.9 | 54.0 | 874.1 | 661.5 | 230.1 | 1.000235 |
| 2400.0 | 772.1 | 62.6 | 55.5 | 864.3 | 660.0 | 252.3 | 1.000230 |
| 2350.0 | 769.7 | 61.5 | 57.2 | 857.4 | 658.6 | 263.2 | 1.000226 |
| 2300.0 | 765.7 | 60.5 | 40.6 | 830.7 | 657.6 | 271.7 | 1.000223 |
| 2250.0 | 764.3 | 59.6 | 45.4 | 827.8 | 656.2 | 287.1 | 1.000221 |
| 2200.0 | 767.0 | 58.0 | 72.1 | 814.8 | 654.6 | 289.2 | 1.000219 |
| 2150.0 | 767.9 | 56.6 | 77.2 | 805.7 | 653.1 | 304.8 | 1.000216 |
| 2100.0 | 766.1 | 54.6 | 78.0 | 797.0 | 651.9 | 325.2 | 1.000212 |
| 2050.0 | 764.6 | 53.5 | 79.7 | 787.3 | 650.5 | 344.6 | 1.000207 |
| 2000.0 | 763.2 | 52.5 | 90.5 | 770.0 | 649.3 | 3.2 | 1.000203 |
| 1950.0 | 762.0 | 51.3 | 90.5 | 750.5 | 648.0 | 11.1 | 1.000199 |
| 1900.0 | 760.9 | 50.1 | 92.9 | 748.7 | 646.6 | 19.4 | 1.000195 |
| 1850.0 | 759.9 | 49.1 | 97.6 | 738.4 | 644.9 | 28.5 | 1.000192 |
| 1800.0 | 758.9 | 48.0 | 96.6 | 727.7 | 643.7 | 37.7 | 1.000187 |
| 1750.0 | 757.9 | 46.9 | 95.1 | 715.0 | 642.6 | 45.8 | 1.000183 |
| 1700.0 | 756.9 | 45.8 | 97.6 | 704.8 | 641.5 | 50.7 | 1.000179 |
| 1650.0 | 755.9 | 44.7 | 97.1 | 693.8 | 640.4 | 52.2 | 1.000174 |
| 1600.0 | 754.9 | 43.6 | 90.5 | 683.1 | 639.2 | 45.0 | 1.000171 |
| 1550.0 | 753.9 | 42.5 | 79.0 | 672.5 | 638.1 | 28.7 | 1.000167 |
| 1500.0 | 752.9 | 41.4 | 94.5 | 662.4 | 636.7 | 18.2 | 1.000164 |
| 1450.0 | 751.9 | 40.3 | 98.6 | 652.6 | 635.3 | 9.0 | 1.000162 |
| 1400.0 | 750.9 | 39.2 | 96.7 | 642.8 | 634.0 | 51.4 | 1.000159 |
| 1350.0 | 749.9 | 38.1 | 94.1 | 632.6 | 632.7 | 68.0 | 1.000154 |
| 1300.0 | 748.9 | 37.0 | 91.8 | 622.0 | 631.4 | 67.7 | 1.000151 |
| 1250.0 | 747.9 | 35.9 | 75.2 | 612.4 | 630.5 | 64.4 | 1.000147 |
| 1200.0 | 746.9 | 34.8 | 92.9 | 602.5 | 629.0 | 41.5 | 1.000141 |
| 1150.0 | 745.9 | 33.7 | 75.1 | 592.6 | 627.4 | 35.1 | 1.000136 |
| 1100.0 | 744.9 | 32.6 | 76.7 | 582.7 | 625.8 | 35.7 | 1.000134 |

GEODETIC COORDINATES
37.6004° LAT DEG
106.7703° LON DEG

UPPER AIR DATA
104000750
WHITE SANDS

STATION ALTITUDE 2000.0 FEET MSL
2 JULY 64 1000 NDT
ASCENSION NO. 352

TABLE 6 Cont'd

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | TEMPERATURE °C | REL. HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | WIND DATA | | INDEX OF REFRACTION |
|-----------------------------------|-----------------------|-------------------|----------------------|------------------------------|----------------------------|---------------------------|----------------|---------------------------|
| | | | | | | DIRECTION DEGREES (TN) | SPEED KNOTS | |
| 2500.0 | 475.2 | -17.5 | 77.5 | 570.2 | 677.9 | 292.6 | 2.2 | 1.000132 |
| 2600.0 | 473.8 | -17.6 | 78.6 | 569.3 | 626.6 | 282.0 | 4.0 | 1.000129 |
| 2450.0 | 478.5 | -15.7 | 79.8 | 557.5 | 625.2 | | | 1.000127 |
| 2500.0 | 470.4 | -16.8 | 40.9 | 543.0 | 623.0 | | | 1.000125 |

STATION ALTITUDE 1000.00 FEET WSL
 2 JULY 64 1000 MDT
 OBSERVATION NO. 155

MANDATORY LEVELS
 104.000750
 WHITE SAIDS

GEODETIC COORDINATES
 32.40047 LAT DEG
 104.17037 LONG DEG

TABLE 7

| PRESSURE GEOPOTENTIAL MILLIBARS | TEMPERATURE AIR DEGREES CENTIGRADE | DEW POINT DEGREES CENTIGRADE | REL. HUM. PERCENT | WIND DATA | | |
|------------------------------------|---------------------------------------|---------------------------------|----------------------|--------------------------|----------------|---------------|
| | | | | DIRECTION DEGREES(TN) | SPEED KNOTS | SPED KNOTS |
| 850.0 | 5020. | 21.7 | 17.0 | 152.0 | 5.9 | 5.9 |
| 400.0 | 6745. | 17.0 | 10.3 | 170.6 | 12.3 | 12.3 |
| 750.0 | 8557. | 15.0 | 6.2 | 214.8 | 12.2 | 12.2 |
| 700.0 | 10464. | 11.5 | 3.7 | 262.7 | 10.3 | 10.3 |
| 450.0 | 2486. | 4.4 | 2.0 | 304.5 | 8.1 | 8.1 |
| 400.0 | 16427. | 2.2 | -0.7 | 13.0 | 11.6 | 11.6 |
| 500.0 | 16015. | -2.3 | -5.0 | 57.5 | 12.4 | 12.4 |
| 500.0 | 10170. | -2.4 | -2.1 | 17.7 | 5.1 | 5.1 |
| 450.0 | 2204. | -11.1 | -10.4 | 30.5 | 1.9 | 1.9 |
| 400.0 | -4984. | -14.0 | -23.0 | | | |

STATION ALTITUDE 1007.10 FEET MSL
 2 JULY 64
 1000 MDT
 OBSERVATION NO. 100

SIGNIFICANT LEVEL DATA
 1040047125
 S W P

GEODETIC COORDINATES
 17.48034 LAT DEG
 106.42707 LON DEG

TABLE 8

| PRESSURE GEODETIC ALTITUDE MILLIBARS MSL FEET | TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE | REL. HUM. PERCENT |
|---|---|----------------------|
| 981.7 1007.1 | 26.2 15.0 | 50.0 |
| 974.7 4377.0 | 24.2 14.0 | 57.0 |
| 950.0 5040.4 | 21.5 12.9 | 58.0 |
| 921.7 4075.8 | 19.1 12.4 | 46.0 |
| 781.7 2433.0 | 17.2 9.6 | 41.0 |
| 757.7 2706.1 | 17.1 5.9 | 51.0 |
| 700.0 10408.4 | 11.5 3.5 | 58.0 |
| 567.4 14140.1 | -1.8 -3.5 | 98.0 |
| 510.7 10448.0 | -6.1 -8.4 | 84.0 |
| 500.0 12456.0 | -9.1 -8.5 | 97.0 |
| 460.0 20008.8 | -11.8 -13.8 | 85.0 |
| 441.0 21471.0 | -11.8 -17.8 | 41.0 |
| 440.0 22195.7 | -11.7 -19.5 | 52.0 |
| 430.0 22707.8 | -12.5 -25.4 | 73.0 |
| 400.0 25073.6 | -17.5 -29.3 | 38.0 |

STATION ALTITUDE 1907.00 FEET MSL
2 JULY 62
REFRECTION NO. 126

UPPER AIR DATA
184000125
5 M 2

GEOMETRIC COORDINATES
32.48034 LAT DEG
106.42107 LONG DEG

TABLE 9

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | TEMPERATURE °C °F | REL. HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | WIND DATA DIRECTION SPEED KNOTS | INDEX OF REFRACTION |
|--------------------------------|-----------------------|-------------------------|----------------------|------------------------------|----------------------------|--|---------------------------|
| 1907.0 | 891.7 | 76.2 | 50.0 | 1019.4 | 476.5 | 140.0 | 1.000209 |
| 4000.0 | 891.6 | 76.2 | 50.0 | 1018.5 | 476.5 | 140.4 | 1.000209 |
| 4500.0 | 846.5 | 71.6 | 54.2 | 1010.2 | 473.6 | 154.4 | 1.000203 |
| 5000.0 | 846.5 | 71.7 | 57.7 | 999.4 | 471.2 | 164.5 | 1.000208 |
| 5500.0 | 846.6 | 70.4 | 61.7 | 984.2 | 469.7 | 171.0 | 1.000205 |
| 6000.0 | 822.0 | 65.2 | 65.9 | 972.1 | 468.3 | 177.4 | 1.000282 |
| 6500.0 | 822.6 | 64.5 | 64.3 | 958.4 | 467.4 | 190.4 | 1.000275 |
| 7000.0 | 793.4 | 62.8 | 62.5 | 946.7 | 466.5 | 192.0 | 1.000248 |
| 7500.0 | 770.5 | 62.2 | 60.4 | 920.8 | 465.7 | 193.7 | 1.000261 |
| 8000.0 | 745.7 | 62.1 | 55.7 | 913.0 | 465.6 | 204.5 | 1.000253 |
| 8500.0 | 752.2 | 61.1 | 51.0 | 898.2 | 465.4 | 215.7 | 1.000245 |
| 9000.0 | 729.8 | 61.7 | 52.8 | 884.7 | 463.7 | 225.7 | 1.000240 |
| 9500.0 | 725.6 | 64.3 | 54.5 | 875.2 | 462.0 | 238.7 | 1.000236 |
| 10000.0 | 712.7 | 62.9 | 56.3 | 864.1 | 460.4 | 248.7 | 1.000231 |
| 10500.0 | 700.0 | 61.5 | 58.0 | 852.0 | 458.7 | 257.7 | 1.000227 |
| 11000.0 | 687.1 | 60.3 | 60.7 | 840.8 | 457.3 | 264.7 | 1.000223 |
| 11500.0 | 674.4 | 61.1 | 63.3 | 829.8 | 455.9 | 274.0 | 1.000220 |
| 12000.0 | 661.0 | 60.0 | 66.0 | 817.0 | 454.5 | 284.4 | 1.000216 |
| 12500.0 | 647.7 | 60.8 | 68.5 | 805.4 | 453.1 | 294.7 | 1.000212 |
| 13000.0 | 634.8 | 59.6 | 71.3 | 794.0 | 451.7 | 308.4 | 1.000209 |
| 13500.0 | 622.0 | 58.2 | 76.0 | 782.7 | 450.3 | 324.7 | 1.000205 |
| 14000.0 | 609.5 | 56.8 | 76.6 | 771.6 | 448.9 | 342.7 | 1.000201 |
| 14500.0 | 600.1 | 55.1 | 79.3 | 760.7 | 447.4 | 357.3 | 1.000198 |
| 15000.0 | 592.0 | 53.9 | 81.9 | 750.0 | 446.0 | 374.7 | 1.000194 |
| 15500.0 | 581.1 | 52.6 | 84.6 | 739.4 | 444.6 | 390.4 | 1.000191 |
| 16000.0 | 570.4 | 51.5 | 87.3 | 729.0 | 443.2 | 408.4 | 1.000187 |
| 16500.0 | 559.4 | 50.3 | 90.4 | 718.0 | 441.9 | 427.7 | 1.000183 |
| 17000.0 | 548.0 | 49.1 | 96.5 | 704.0 | 440.8 | 448.4 | 1.000179 |
| 17500.0 | 539.5 | 47.7 | 95.6 | 694.0 | 439.6 | 470.4 | 1.000175 |
| 18000.0 | 530.2 | 46.4 | 94.8 | 685.2 | 438.4 | 494.4 | 1.000171 |
| 18500.0 | 518.7 | 45.2 | 94.7 | 676.4 | 437.3 | 520.4 | 1.000168 |
| 19000.0 | 508.2 | 44.0 | 91.4 | 666.4 | 436.0 | 548.4 | 1.000165 |
| 19500.0 | 498.3 | 42.8 | 96.4 | 657.0 | 434.8 | 578.4 | 1.000161 |
| 20000.0 | 488.1 | 41.6 | 92.6 | 646.7 | 433.3 | 609.4 | 1.000159 |
| 20500.0 | 479.1 | 40.6 | 98.8 | 634.6 | 431.8 | 641.4 | 1.000155 |
| 21000.0 | 470.4 | 39.8 | 92.0 | 625.1 | 430.3 | 674.4 | 1.000151 |
| 21500.0 | 460.4 | 38.6 | 90.2 | 617.1 | 430.2 | 708.4 | 1.000145 |
| 22000.0 | 451.6 | 37.5 | 86.2 | 609.4 | 430.3 | 742.4 | 1.000141 |
| 22500.0 | 442.6 | 36.2 | 80.6 | 599.4 | 429.6 | 777.4 | 1.000137 |
| 23000.0 | 433.0 | 35.1 | 72.6 | 589.0 | 428.6 | 812.4 | 1.000134 |

STATION ALTITUDE 3000.00 FEET WSL
 3 JULY 54 1000 MDT
 ASCENSION NO. 176

UPPER AIR DATA
 1940040125
 C M O

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LONG DEG

TABLE 9 Cont'd

| GEOMETRIC ALTITUDE WSL FEET | PRESSURE MILLIBARS | TEMPERATURE 10 DEGREE CENTIGRADE | REL. HUM. PERCENT | DENSITY GM/CM ³ | SPEED OF SOUND KNOTS | WIND DATA DIRECTION DEGREES (TN) | SPEED KNOTS | INDEX OF REFRACTION |
|--------------------------------|-----------------------|--|----------------------|-------------------------------|----------------------------|--|----------------|---------------------------|
| 34500.0 | 475.2 | -14.2 | 74.7 | 571.0 | 627.1 | | | 1.000131 |
| 34000.0 | 476.0 | -15.3 | 75.8 | 567.7 | 625.8 | | | 1.000129 |
| 34500.0 | 478.5 | -16.4 | 76.0 | 557.0 | 624.5 | | | 1.000127 |
| 35000.0 | 480.4 | -17.4 | 77.0 | 545.2 | 623.1 | | | 1.000125 |

STATION ALTITUDE 1007.10 FEET MSL
 2 JULY 84
 ASCENSION NO. 125
 1000 MDT
 MANDATORY LEVELS
 1040040125
 C M R
 GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42107 LONG DEG

TABLE 10

| PRESSURE MILLIBARS | GEOPOTENTIAL FEET | TEMPERATURE | | REL. HUM. PERCENT | WIND DATA | | |
|-----------------------|----------------------|------------------------------|------------------------|----------------------|--------------------------|----------------|--|
| | | AIR DEGREES CENTIGRADE | DEWPOINT CENTIGRADE | | DIRECTION DEGREES(TN) | SPEED KNOTS | |
| 950.0 | 5044. | 21.5 | 12.9 | 58. | 167.2 | 6.7 | |
| 900.0 | 6763. | 18.1 | 11.0 | 63. | 181.9 | 12.0 | |
| 850.0 | 8576. | 14.0 | 6.8 | 51. | 216.9 | 11.4 | |
| 800.0 | 10489. | 11.5 | 3.5 | 58. | 257.1 | 10.0 | |
| 750.0 | 12507. | 8.8 | 1.4 | 69. | 294.5 | 9.1 | |
| 700.0 | 14449. | 1.7 | -1.2 | 80. | 2.4 | 11.5 | |
| 650.0 | 16332. | -3.7 | -5.2 | 87. | 40.3 | 12.5 | |
| 600.0 | 19289. | -8.1 | -9.5 | 97. | 40.5 | 13.2 | |
| 550.0 | 22050. | -11.7 | -10.2 | 53. | 204.3 | 2.4 | |
| 500.0 | 24981. | -17.5 | -20.2 | 38. | | | |

STATION ALTITUDE 4007.49 FEET WSL
 5 JULY 64 1000 MDT
 WASHINGTON DC. 12

SIGNIFICANT LEVEL DATA
 1740200015
 NON

GEODETIC COORDINATES
 32.57209 LAT DEG
 106.29639 LONG DEG

TABLE 11

| PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET | TEMPERATURE ATR DEWPOINT DEGREES CENTIGRADE | REL. HUM. PERCENT |
|--|---|----------------------|
| 88.0 4003.7 | 25.7 15.7 | 54.0 |
| 87.0 4247.4 | 23.9 14.0 | 54.0 |
| 85.0 5001.8 | 21.0 12.2 | 57.0 |
| 814.4 4203.8 | 16.7 9.4 | 62.0 |
| 784.0 7278.3 | 17.1 9.8 | 62.0 |
| 755.5 9170.4 | 17.5 7.3 | 51.0 |
| 700.0 10438.6 | 11.3 4.1 | 61.0 |
| 479.4 11241.2 | 9.3 4.3 | 71.0 |
| 554.6 14680.7 | -2.7 -3.2 | 96.0 |
| 500.0 10359.4 | -8.4 -8.8 | 97.0 |
| 470.2 20919.9 | -11.7 -14.4 | 80.0 |
| 455.5 21721.8 | -11.2 -20.7 | 45.0 |
| 441.1 22531.4 | -12.4 -21.6 | 46.0 |
| 434.0 22939.0 | -13.0 -25.2 | 35.0 |
| 426.0 23449.8 | -13.8 -22.9 | 46.0 |
| 410.7 23777.2 | -14.8 -27.8 | 32.0 |
| 400.0 24967.8 | -17.8 -27.8 | 41.0 |

UPPER AIR DATA
1740200012
NON

STATION ALTITUDE 4003.9 FEET *SL
2 JULY 64
ASCENSION NO. 12 1000 MDT

GEODETIC COORDINATES
32.57209 LAT DEG
106.29439 LONG DEG

TABLE 12

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | TEMPERATURE AIR DEGREES TEMPPOINTY CENTIGRADE | REL HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | DIRECTION DEGREES(TN) | WIND DATA SPEED KNOTS | INDEX OF REFRACTION |
|--------------------------------|-----------------------|--|---------------------|------------------------------|----------------------------|--------------------------|-----------------------------|---------------------------|
| 4003.9 | 807.1 | 35.7 | 54.0 | 1018.0 | 676.1 | 180.0 | 14.0 | 1.000303 |
| 4500.0 | 845.0 | 32.0 | 55.0 | 1017.0 | 672.6 | 174.7 | 14.3 | 1.000292 |
| 5000.0 | 890.1 | 31.0 | 57.0 | 1000.3 | 670.3 | 173.4 | 14.7 | 1.000285 |
| 5500.0 | 835.1 | 29.2 | 59.1 | 980.2 | 668.1 | 170.4 | 15.1 | 1.000279 |
| 6000.0 | 870.5 | 27.4 | 61.2 | 978.1 | 666.0 | 167.5 | 15.5 | 1.000273 |
| 6500.0 | 894.0 | 26.8 | 62.0 | 963.0 | 665.2 | 172.6 | 16.4 | 1.000268 |
| 7000.0 | 901.8 | 27.0 | 62.0 | 945.2 | 665.5 | 180.6 | 13.3 | 1.000265 |
| 7500.0 | 927.8 | 27.2 | 59.3 | 928.0 | 665.7 | 191.0 | 11.7 | 1.000259 |
| 8000.0 | 944.1 | 27.4 | 53.1 | 911.3 | 665.8 | 209.3 | 10.1 | 1.000251 |
| 8500.0 | 970.6 | 26.6 | 52.5 | 897.0 | 664.5 | 227.6 | 9.5 | 1.000245 |
| 9000.0 | 987.2 | 25.2 | 54.7 | 886.2 | 663.2 | 239.7 | 9.0 | 1.000241 |
| 9500.0 | 939.9 | 23.9 | 56.9 | 874.7 | 661.6 | 252.8 | 8.9 | 1.000236 |
| 10000.0 | 911.1 | 22.5 | 59.1 | 863.3 | 659.9 | 259.8 | 8.9 | 1.000232 |
| 10500.0 | 868.4 | 21.2 | 61.7 | 852.0 | 658.3 | 266.5 | 9.1 | 1.000228 |
| 11000.0 | 895.8 | 20.9 | 67.8 | 840.1 | 657.0 | 273.8 | 9.1 | 1.000226 |
| 11500.0 | 873.3 | 20.0 | 72.1 | 828.1 | 655.6 | 282.7 | 8.9 | 1.000223 |
| 12000.0 | 840.8 | 17.7 | 74.4 | 814.1 | 654.3 | 290.8 | 8.9 | 1.000219 |
| 12500.0 | 848.5 | 16.6 | 76.7 | 806.2 | 653.0 | 306.2 | 8.7 | 1.000215 |
| 13000.0 | 876.5 | 15.4 | 79.0 | 792.5 | 651.6 | 321.4 | 9.1 | 1.000211 |
| 13500.0 | 874.7 | 14.3 | 81.3 | 781.0 | 650.3 | 336.3 | 9.6 | 1.000207 |
| 14000.0 | 813.1 | 13.2 | 83.6 | 769.7 | 649.0 | 350.2 | 10.5 | 1.000204 |
| 14500.0 | 801.8 | 12.1 | 85.0 | 758.6 | 647.6 | 1.7 | 11.5 | 1.000200 |
| 15000.0 | 809.6 | 11.0 | 88.2 | 747.6 | 646.3 | 12.5 | 11.8 | 1.000196 |
| 15500.0 | 849.0 | 10.2 | 90.6 | 734.8 | 644.9 | 22.5 | 12.5 | 1.000192 |
| 16000.0 | 858.4 | 9.2 | 92.0 | 726.2 | 643.6 | 30.0 | 12.7 | 1.000188 |
| 16500.0 | 847.8 | 8.3 | 95.2 | 715.8 | 642.2 | 36.4 | 12.5 | 1.000185 |
| 17000.0 | 877.3 | 7.4 | 96.1 | 705.1 | 640.9 | 43.0 | 12.4 | 1.000181 |
| 17500.0 | 877.0 | 6.4 | 96.3 | 694.5 | 639.6 | 44.3 | 11.9 | 1.000177 |
| 18000.0 | 877.0 | 5.5 | 96.5 | 684.0 | 638.2 | 45.4 | 11.4 | 1.000173 |
| 18500.0 | 877.0 | 4.6 | 96.7 | 673.7 | 636.9 | 45.1 | 10.8 | 1.000169 |
| 19000.0 | 877.0 | 3.7 | 96.9 | 663.5 | 635.6 | 42.5 | 10.0 | 1.000166 |
| 19500.0 | 877.0 | 2.8 | 95.5 | 653.5 | 634.3 | 39.4 | 9.2 | 1.000162 |
| 20000.0 | 877.0 | 1.9 | 90.0 | 643.7 | 632.9 | 38.5 | 7.3 | 1.000158 |
| 20500.0 | 877.0 | 1.0 | 94.6 | 633.7 | 631.6 | 20.4 | 5.0 | 1.000154 |
| 21000.0 | 877.0 | 0.1 | 76.5 | 623.4 | 630.5 | 350.2 | 3.3 | 1.000150 |
| 21500.0 | 877.0 | 0.1 | 54.7 | 610.7 | 630.7 | 209.0 | 2.9 | 1.000146 |
| 22000.0 | 877.0 | 0.1 | 45.3 | 590.5 | 630.3 | 275.8 | 3.7 | 1.000140 |
| 22500.0 | 877.0 | 0.1 | 46.0 | 580.4 | 629.4 | | | 1.000137 |
| 23000.0 | 877.0 | 0.1 | 36.3 | 570.5 | 628.5 | | | 1.000134 |
| 23500.0 | 877.0 | 0.1 | 44.6 | 560.8 | 627.5 | | | 1.000132 |

STATION ALTITUDE 4000.40 FEET MSL
 2 JULY 84
 ASCENSION NO. 12

UPPER AIR DATA
 1740200012
 70N

GEODETIC COORDINATES
 32.57200 LAT DEG
 106.29439 LON DEG

TABLE 12 Cont'd

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | TEMPERATURE °C | REF. HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | WIND DATA DIR. DEGREES (TN) | WIND DATA SPEED KNOTS | INDEX OF REFRACTION |
|-----------------------------|--------------------|----------------|-------------------|------------------------|----------------------|-----------------------------|-----------------------|---------------------|
| 7400.0 | 415.9 | -15.4 | 73.7 | 561.8 | 625.7 | | | 1.000129 |
| 7450.0 | 407.6 | -16.6 | 77.5 | 559.7 | 626.1 | | | 1.000127 |

STATION ALTITUDE 4000.00 FEET MSL
 2 JULY 64 1000 MDT
 WASHINGTON 10. 12

MANDATORY LEVELS
 1340200013
 DON

GEODETIC COORDINATES
 32.57209 LAT DEG
 106.29439 LON DEG

TABLE 13

| PRESSURE GEOPOTENTIAL MILLIBARS | FEET | TEMPERATURE | | REL. HUM. PERCENT | WIND DATA | |
|------------------------------------|--------|----------------|-------------------------|----------------------|--------------------------|----------------|
| | | AIR DEGREES | WET POINT CENTIGRADE | | DIRECTION DEGREES(TN) | SPEED KNOTS |
| 950.0 | 4000. | 21.0 | 12.2 | 57. | 173.4 | 16.7 |
| 900.0 | 6706. | 14.0 | 9.4 | 62. | 175.8 | 13.9 |
| 850.0 | 8514. | 16.5 | 4.8 | 53. | 228.0 | 9.5 |
| 800.0 | 10429. | 11.2 | 4.1 | 61. | 265.7 | 9.0 |
| 750.0 | 12444. | 4.2 | 2.8 | 76. | 104.8 | 8.7 |
| 700.0 | 14580. | 2.0 | -1.1 | 86. | 1.9 | 11.6 |
| 650.0 | 16874. | -3.2 | -3.2 | 96. | 41.5 | 12.4 |
| 600.0 | 19332. | -8.4 | -8.8 | 97. | 40.4 | 9.4 |
| 550.0 | 21995. | -11.2 | -21.1 | 45. | 275.0 | 3.8 |
| 500.0 | 24926. | -17.8 | -27.9 | 41. | | |

STATION ALTITUDE 1000.0 FEET WSL
 2 JULY 64
 ASCENSION NO. 100 1130 MDT

SIGNIFICANT LEVEL DATA
 104007050
 WHITE SANDS

GEODETIC COORDINATES
 32.4004° LAT DEG
 106.3703° LON DEG

TABLE 14

| PRESSURE MILLIBARS WSL FEET | GEOMETRIC ALTITUDE | TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE | REL. HUM. PERCENT |
|--------------------------------|-----------------------|---|----------------------|
| 981.1 | 1000.0 | 78.2 | 43.0 |
| 867.7 | 4447.0 | 75.8 | 45.0 |
| 850.0 | 5020.7 | 74.4 | 48.0 |
| 814.0 | 4252.6 | 70.8 | 56.0 |
| 795.0 | 6033.4 | 72.4 | 44.0 |
| 775.0 | 7643.4 | 69.1 | 53.0 |
| 730.3 | 9313.1 | 64.4 | 57.0 |
| 700.0 | 10495.3 | 61.6 | 59.0 |
| 677.0 | 11400.2 | 58.8 | 64.0 |
| 654.0 | 12245.9 | 55.5 | 62.0 |
| 550.0 | 14401.2 | 41.7 | 91.0 |
| 524.4 | 16000.7 | 40.9 | 95.0 |
| 519.4 | 16404.9 | 40.6 | 75.0 |
| 500.0 | 18015.9 | 40.0 | 71.0 |
| 500.0 | 19433.3 | 40.0 | 48.0 |
| 484.7 | 20178.4 | 40.1 | 47.0 |
| 474.0 | 20472.1 | 40.0 | 70.0 |
| 460.3 | 21001.1 | 40.2 | 58.0 |
| 447.4 | 22244.4 | 41.4 | 35.0 |
| 400.0 | 25041.0 | 40.0 | 32.0 |

STATION ALTITUDE 3000.00 FEET WSL
 2 JULY 62
 ASCENSION NO. 350 1130 MDT

UPPER AIR DATA
 1940020750
 WHITE SANDS

GEOMETRIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 15

| GEOMETRIC ALTITUDE WSL FEET | PRESSURE MILLIBARS | TEMPERATURE AIR DEGREE CENTIGRADE | REFL. HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | WIND DIRECTION DEGREES(TN) | SPEED KNOTS | INDEX OF REFRACTION |
|-----------------------------|--------------------|-----------------------------------|--------------------|------------------------|----------------------|----------------------------|-------------|---------------------|
| 3000.0 | 881.1 | 28.2 | 43.0 | 1011.4 | 678.7 | 180.0 | 9.0 | 1.000294 |
| 4000.0 | 857.8 | 28.1 | 43.0 | 1011.2 | 678.6 | 180.0 | 8.0 | 1.000294 |
| 4500.0 | 845.7 | 25.7 | 45.3 | 1002.7 | 675.7 | 179.5 | 7.8 | 1.000287 |
| 5000.0 | 837.0 | 24.5 | 47.8 | 982.4 | 674.3 | 179.0 | 7.6 | 1.000283 |
| 5500.0 | 826.1 | 22.6 | 51.1 | 978.5 | 672.1 | 179.3 | 7.4 | 1.000279 |
| 6000.0 | 821.6 | 20.8 | 54.3 | 967.0 | 669.9 | 177.7 | 7.2 | 1.000274 |
| 6500.0 | 807.3 | 18.9 | 58.9 | 957.1 | 667.8 | 177.0 | 7.0 | 1.000271 |
| 7000.0 | 793.1 | 17.5 | 63.0 | 945.0 | 666.1 | 193.1 | 6.8 | 1.000267 |
| 7500.0 | 779.2 | 16.0 | 65.2 | 927.3 | 666.5 | 209.7 | 7.1 | 1.000258 |
| 8000.0 | 745.4 | 17.3 | 53.0 | 913.2 | 665.7 | 225.3 | 7.2 | 1.000251 |
| 8500.0 | 731.8 | 16.2 | 53.0 | 900.7 | 664.3 | 240.8 | 7.5 | 1.000245 |
| 9000.0 | 739.5 | 15.1 | 53.0 | 989.4 | 663.0 | 250.5 | 7.8 | 1.000239 |
| 9500.0 | 725.4 | 14.0 | 54.0 | 874.2 | 661.6 | 258.7 | 8.2 | 1.000235 |
| 10000.0 | 712.4 | 12.8 | 56.5 | 864.2 | 660.2 | 270.7 | 8.6 | 1.000231 |
| 10500.0 | 699.6 | 11.6 | 59.1 | 852.3 | 658.8 | 281.5 | 9.3 | 1.000228 |
| 11000.0 | 697.0 | 10.0 | 61.8 | 841.4 | 657.0 | 292.5 | 9.7 | 1.000223 |
| 11500.0 | 676.5 | 8.8 | 43.8 | 830.1 | 655.4 | 302.9 | 10.1 | 1.000219 |
| 12000.0 | 662.3 | 7.9 | 42.6 | 815.6 | 655.2 | 312.9 | 9.9 | 1.000215 |
| 12500.0 | 650.1 | 6.7 | 43.7 | 802.6 | 654.4 | 323.2 | 10.0 | 1.000211 |
| 13000.0 | 638.0 | 5.5 | 47.2 | 791.2 | 653.0 | 334.4 | 9.8 | 1.000208 |
| 13500.0 | 626.2 | 4.3 | 70.6 | 770.0 | 651.6 | 345.5 | 9.8 | 1.000205 |
| 14000.0 | 614.6 | 3.1 | 74.0 | 769.8 | 650.1 | 356.8 | 9.4 | 1.000202 |
| 14500.0 | 603.2 | 1.7 | 77.4 | 757.0 | 648.7 | 371.1 | 9.2 | 1.000198 |
| 15000.0 | 592.0 | 1.9 | 90.8 | 747.2 | 647.3 | 380.7 | 10.0 | 1.000195 |
| 15500.0 | 581.1 | .7 | 84.2 | 734.6 | 645.8 | 401.2 | 10.6 | 1.000191 |
| 16000.0 | 570.3 | -5 | 97.6 | 724.2 | 644.4 | 45.2 | 10.8 | 1.000188 |
| 16500.0 | 559.7 | -1.7 | 91.0 | 714.0 | 642.9 | 47.1 | 9.8 | 1.000185 |
| 17000.0 | 549.1 | -2.7 | 92.3 | 705.1 | 641.7 | 49.5 | 9.4 | 1.000181 |
| 17500.0 | 538.6 | -3.7 | 93.5 | 694.2 | 640.4 | 54.8 | 5.6 | 1.000177 |
| 18000.0 | 528.4 | -4.7 | 94.8 | 683.8 | 639.2 | 66.2 | 5.0 | 1.000174 |
| 18500.0 | 518.3 | -6.6 | 75.0 | 674.0 | 636.7 | 78.6 | 4.0 | 1.000166 |
| 19000.0 | 508.3 | -6.9 | 71.1 | 663.9 | 636.3 | 93.0 | 3.2 | 1.000162 |
| 19500.0 | 498.5 | -7.8 | 47.9 | 653.2 | 635.2 | 78.8 | 2.5 | 1.000158 |
| 20000.0 | 489.8 | -8.8 | 67.2 | 642.2 | 633.9 | 34.6 | 1.4 | 1.000155 |
| 20500.0 | 479.3 | -9.8 | 40.0 | 631.8 | 632.7 | 313.4 | 2.7 | 1.000152 |
| 21000.0 | 470.0 | -10.2 | 40.6 | 621.8 | 632.2 | 280.6 | 4.1 | 1.000149 |
| 21500.0 | 460.8 | -10.6 | 49.9 | 610.8 | 631.4 | 257.0 | 5.0 | 1.000144 |
| 22000.0 | 451.8 | -11.1 | 70.6 | 600.2 | 630.9 | 243.0 | 4.5 | 1.000139 |
| 22500.0 | 442.9 | -11.9 | 74.7 | 590.2 | 629.9 | 230.7 | 6.7 | 1.000136 |
| 23000.0 | 434.1 | -12.0 | 74.2 | 580.0 | 628.6 | 238.5 | 6.9 | 1.000134 |

GEODETIC COORDINATES
37.4004° LAT DEG
106.3703° LONG DEG

UPPER AIR DATA
104000150
WHITE SANDS

STATION ALTITUDE 269.0 FEET WSL
5 JULY 64
ASCENSION NO. 1130 MDT

TABLE 15 Cont'd

| GEODETIC ALTITUDE WSL FEET | PRESSURE MILLIBARS | TEMPERATURE AIR DEGREES CENTIGRADE | REF. HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | WIND DATA DIR (DEGREES) SPEED (KNOTS) | INDEX OF REFRACTION |
|-------------------------------|-----------------------|--|----------------------|------------------------------|----------------------------|---|---------------------------|
| 23500.0 | 425.5 | -14.0 | 13.7 | 571.7 | 627.3 | | 1.000131 |
| 24000.0 | 422.0 | -15.1 | 13.1 | 569.7 | 626.0 | | 1.000129 |
| 24500.0 | 418.8 | -16.2 | 12.6 | 557.8 | 624.7 | | 1.000127 |
| 25000.0 | 400.7 | -17.2 | 12.0 | 545.1 | 623.4 | | 1.000124 |

STATION ALTITUDE 1000.00 FEET MSL
 2 JULY 84 1130 MDT
 ASPENSTON NC. 350

MANDATORY LEVELS
 104000050
 WHITE SANDS

TABLE 16

| PRESSURE GEOPOTENTIAL MILLIBARS | TEMPERATURE ATP DEGREES CENTIGRADE | TEMPERATURE NEUMPOINT CENTIGRADE | REL. HUM. PERCENT | WIND DATA | |
|------------------------------------|--|--|----------------------|--------------------------|----------------|
| | | | | DIRECTION DEGREES(TN) | SPEED KNOTS |
| 950.0 | 5024.0 | 24.6 | 48.0 | 179.0 | 7.6 |
| 900.0 | 6751.0 | 19.0 | 62.0 | 184.6 | 6.8 |
| 750.0 | 9567.0 | 14.1 | 53.0 | 242.9 | 7.6 |
| 700.0 | 10675.0 | 11.6 | 59.0 | 281.1 | 9.2 |
| 650.0 | 12495.0 | 7.0 | 64.0 | 323.2 | 10.0 |
| 600.0 | 14545.0 | 2.7 | 78.0 | 19.1 | 9.4 |
| 550.0 | 16934.0 | -7.6 | 92.0 | 48.3 | 8.5 |
| 500.0 | 20396.0 | -17.6 | 98.0 | 91.9 | 2.6 |
| 450.0 | 23766.0 | -22.7 | 38.0 | 241.4 | 6.5 |
| 400.0 | 26090.0 | -17.3 | 32.0 | | |

GEODETIC COORDINATES
 32.60047 LAT DEG
 106.87033 LON DEG

STATION ALTITUDE 1907.10 FEET MSL
 2 JULY 94
 ASCENSION NO. 176

SIGNIFICANT LEVEL DATA
 184004012A
 C W 9

1130 MDT

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LONG DEG

TABLE 17

| PRESSURE MILLIBARS | GEOMETRIC ALTITUDE MSL FEET | TEMPERATURE | | REL. HUM. PERCENT |
|-----------------------|-----------------------------------|----------------|------------------------|----------------------|
| | | ATR DEGREES | DEWPOINT CENTIGRADE | |
| 881.7 | 1997.3 | 29.1 | 15.2 | 63.0 |
| 875.4 | 1992.0 | 25.9 | 12.7 | 64.0 |
| 850.0 | 1940.0 | 22.8 | 11.5 | 49.0 |
| 785.1 | 1202.2 | 16.7 | 9.6 | 67.0 |
| 754.0 | 938.0 | 16.3 | 7.8 | 57.0 |
| 700.0 | 1048.0 | 12.0 | 4.5 | 60.0 |
| 671.0 | 1164.5 | 9.2 | 2.1 | 61.0 |
| 598.4 | 1475.8 | 2.2 | -1.8 | 75.0 |
| 577.4 | 1569.9 | -2.2 | -1.8 | 89.0 |
| 500.0 | 1949.6 | -6.9 | -7.2 | 98.0 |
| 477.0 | 2063.7 | -8.6 | -9.0 | 97.0 |
| 471.5 | 2091.7 | -10.7 | -12.2 | 89.0 |
| 465.1 | 2126.3 | -11.7 | -19.3 | 53.0 |
| 449.0 | 2211.3 | -12.7 | -20.9 | 50.0 |
| 441.0 | 2254.9 | -13.9 | -26.3 | 34.0 |
| 410.5 | 2385.0 | -17.1 | -33.2 | 23.0 |
| 400.0 | 2502.8 | -18.5 | -30.7 | 33.0 |

GEODETTIC COORDINATES
32.48034 LAT DEG
106.62307 LON DEG

UPPER AIR DATA
184040126
S W R

TABLE 18

STATION ALTITUDE 3097.10 FEET "SL
JULY 04 1130 MDT

[illegible]

STATION ALTITUDE 1007.10 FEET MSL
 2 JULY 94
 ASCENSION NO. 126

UPPER AIR DATA
 1260040126
 S W R

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42107 LONG DEG

1130 MDT

TABLE 18 Cont'd

| GEODETIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | TEMPERATURE AIR DEGREES | TEMPERATURE Dew POINT CENTIGRADE | REL. HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | WIND DATA DIR (DEGREES(TN)) SPEED (KNOTS) | INDEX OF REFRACTION |
|-------------------------------|-----------------------|----------------------------|--|----------------------|------------------------------|----------------------------|---|---------------------------|
| 23500.0 | 405.5 | -16.2 | -11.2 | 26.0 | 576.8 | 624.6 | | 1.000131 |
| 24000.0 | 417.0 | -17.3 | -12.8 | 24.2 | 567.6 | 623.3 | | 1.000129 |
| 24500.0 | 409.7 | -17.9 | -11.7 | 28.5 | 557.6 | 622.6 | | 1.000127 |
| 25000.0 | 400.4 | -18.5 | -10.8 | 22.9 | 547.5 | 621.9 | | 1.000125 |

STATION ALTITUDE 3007.70 FEET MSL
2 JULY 64
ASCENSION NO. 176

MANDATORY LEVELS
184004012A
S W R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LONG DEG

TABLE 19

| PRESSURE GEOPOTENTIAL | | TEMPERATURE | | REL. HUM. PERCENT | WIND DATA | |
|-----------------------|--------|------------------------------|------------------------|----------------------|--------------------------|----------------|
| MILLIBARS | FEET | AIR DEGREES CENTIGRADE | DEWPOINT CENTIGRADE | | DIRECTION DEGREES(TN) | SPEED KNOTS |
| 850.0 | 5037. | 22.8 | 11.5 | 49. | 154.3 | 7.3 |
| 800.0 | 4759. | 18.1 | 10.2 | 60. | 187.0 | 8.4 |
| 750.0 | 4564. | 15.0 | 7.4 | 57. | 240.0 | 8.6 |
| 700.0 | 40470. | 12.0 | 4.5 | 60. | 292.4 | 10.7 |
| 650.0 | 42500. | 7.7 | 1.1 | 65. | 328.8 | 10.3 |
| 600.0 | 46644. | 2.3 | -1.7 | 75. | 27.8 | 9.9 |
| 550.0 | 46034. | -2.5 | -3.5 | 92. | 67.6 | 8.4 |
| 500.0 | 49403. | -6.0 | -7.2 | 98. | 84.3 | 4.8 |
| 450.0 | 42074. | -12.7 | -20.9 | 50. | 252.5 | 7.7 |
| 400.0 | 46085. | -18.5 | -30.7 | 33. | | |

SIGNIFICANT LEVEL DATA
 104.200012
 30.0
 104.200012
 30.0
 104.200012
 30.0

STATION ALTITUDE 4000.0 FEET MSL

12 JULY 84
 ASCENSION NO. 12 1130 MDT

TABLE 20

| PRESSURE | GEOMETRIC ALTITUDE MILLIBARS | MSL FEET | TEMPERATURE | | REL. HUM. PERCENT |
|----------|------------------------------------|----------|----------------|------------------------|----------------------|
| | | | AIR DEGREES | DEWPOINT CENTIGRADE | |
| 272.7 | 4033.7 | 28.8 | 15.3 | 44.0 | 44.0 |
| 275.5 | 4176.5 | 25.8 | 10.9 | 37.0 | 37.0 |
| 253.0 | 4325.1 | 22.9 | 11.9 | 53.0 | 53.0 |
| 704.2 | 7275.5 | 15.5 | 10.2 | 55.0 | 55.0 |
| 757.7 | 7577.7 | 17.5 | 9.2 | 58.0 | 58.0 |
| 749.8 | 9333.4 | 14.9 | 5.7 | 54.0 | 54.0 |
| 700.0 | 10450.5 | 12.1 | 6.3 | 59.0 | 59.0 |
| 655.1 | 11714.5 | 5.0 | .1 | 55.0 | 55.0 |
| 572.9 | 15332.4 | -5 | -1.3 | 91.0 | 91.0 |
| 500.0 | 19248.7 | -7.5 | -3.3 | 99.0 | 99.0 |
| 466.4 | 20322.7 | -9.5 | -11.1 | 39.0 | 39.0 |
| 405.5 | 21275.2 | -11.2 | -17.2 | 51.0 | 51.0 |
| 450.2 | 22011.3 | -10.8 | -13.9 | 47.0 | 47.0 |
| 419.7 | 23615.6 | -13.9 | -23.0 | 29.0 | 29.0 |
| 400.0 | 25010.4 | -15.9 | -28.7 | 35.0 | 35.0 |

STATION ALTITUDE 4203.69 FEET MSL
JULY 54
ASCENSION NO. 13 1130 MDT

UPPER AIR DATA
1540200313
00H

GEODETIC COORDINATES
32.5709 LAT DEG
135.29439 LON DEG

TABLE 21

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | AIR TEMPERATURE DEGREES | TEMPERATURE DEWPOINT CENTIGRADE | REL. HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | WIND DATA DIRECTION DEGREES (T) | SPEED KNOTS | INDEX OF REFRACTION |
|--------------------------------|-----------------------|----------------------------|---------------------------------------|-------------------|------------------------------|-------------------------|---------------------------------------|----------------|---------------------------|
| 4203.7 | 579.7 | 28.3 | 15.3 | 44.0 | 1007.3 | 579.5 | 170.0 | 13.0 | 1.000297 |
| 4503.0 | 564.7 | 23.1 | 11.5 | 42.3 | 1004.7 | 574.9 | 171.0 | 12.4 | 1.000282 |
| 5000.0 | 549.9 | 22.9 | 11.9 | 50.0 | 993.9 | 572.4 | 176.1 | 11.8 | 1.000282 |
| 5500.0 | 535.0 | 21.5 | 11.7 | 53.3 | 980.9 | 570.9 | 176.5 | 11.2 | 1.000279 |
| 6000.0 | 520.4 | 20.1 | 11.3 | 56.5 | 968.2 | 569.3 | 179.2 | 10.6 | 1.000275 |
| 6500.0 | 505.1 | 18.9 | 10.9 | 59.9 | 955.7 | 567.8 | 182.0 | 10.0 | 1.000271 |
| 7000.0 | 492.0 | 17.5 | 10.5 | 53.2 | 943.4 | 565.2 | 185.0 | 9.1 | 1.000267 |
| 7500.0 | 478.1 | 17.1 | 9.9 | 52.4 | 928.4 | 565.7 | 185.0 | 9.0 | 1.000262 |
| 8000.0 | 464.4 | 17.4 | 9.9 | 57.7 | 911.3 | 565.9 | 182.0 | 9.4 | 1.000255 |
| 8500.0 | 450.5 | 16.4 | 7.7 | 56.3 | 898.4 | 564.7 | 187.3 | 9.1 | 1.000248 |
| 9000.0 | 437.5 | 15.0 | 5.5 | 54.9 | 885.5 | 563.5 | 182.0 | 9.5 | 1.000241 |
| 9500.0 | 424.4 | 14.0 | 5.5 | 54.7 | 872.3 | 562.3 | 171.0 | 9.3 | 1.000235 |
| 10000.0 | 411.5 | 13.5 | 4.9 | 57.0 | 859.3 | 560.8 | 180.5 | 9.1 | 1.000232 |
| 10500.0 | 398.7 | 12.8 | 4.3 | 59.1 | 846.8 | 559.3 | 189.5 | 8.9 | 1.000228 |
| 11000.0 | 385.0 | 10.5 | 3.5 | 50.4 | 832.9 | 557.9 | 189.9 | 8.6 | 1.000224 |
| 11500.0 | 373.0 | 9.7 | 2.7 | 51.8 | 824.2 | 555.5 | 188.9 | 9.4 | 1.000219 |
| 12000.0 | 361.3 | 8.5 | 1.9 | 53.1 | 814.5 | 555.2 | 181.5 | 3.4 | 1.000215 |
| 12500.0 | 349.3 | 7.4 | 1.1 | 54.4 | 803.2 | 553.8 | 183.9 | 3.8 | 1.000211 |
| 13000.0 | 337.5 | 6.4 | 0.3 | 55.7 | 792.0 | 552.4 | 185.1 | 9.2 | 1.000207 |
| 13500.0 | 325.7 | 5.1 | -0.0 | 59.6 | 780.5 | 551.0 | 187.1 | 9.4 | 1.000204 |
| 14000.0 | 314.1 | 3.9 | -0.3 | 74.1 | 768.4 | 549.5 | 180.0 | 9.9 | 1.000201 |
| 14500.0 | 302.7 | 2.7 | -0.5 | 78.7 | 758.4 | 548.2 | 18.8 | 10.0 | 1.000198 |
| 15000.0 | 291.3 | 1.5 | -1.0 | 83.2 | 747.5 | 545.3 | 31.9 | 10.3 | 1.000195 |
| 15500.0 | 280.5 | 0.3 | -1.4 | 87.8 | 734.3 | 545.4 | 40.7 | 10.5 | 1.000192 |
| 16000.0 | 269.7 | -0.6 | -2.1 | 90.9 | 724.1 | 544.0 | 44.9 | 10.2 | 1.000189 |
| 16500.0 | 258.8 | -1.8 | -3.2 | 90.5 | 715.1 | 542.8 | 49.6 | 9.8 | 1.000184 |
| 17000.0 | 248.1 | -3.0 | -4.2 | 90.4 | 704.3 | 541.5 | 50.2 | 8.8 | 1.000180 |
| 17500.0 | 237.7 | -3.9 | -5.3 | 90.1 | 691.7 | 540.2 | 48.3 | 7.5 | 1.000175 |
| 18000.0 | 227.5 | -5.5 | -6.3 | 89.8 | 683.2 | 538.9 | 45.3 | 5.2 | 1.000172 |
| 18500.0 | 217.4 | -5.0 | -7.4 | 89.5 | 672.9 | 537.6 | 44.7 | 6.7 | 1.000169 |
| 19000.0 | 207.3 | -7.0 | -8.5 | 89.2 | 662.7 | 535.8 | 40.3 | 3.3 | 1.000165 |
| 19500.0 | 197.3 | -3.1 | -9.5 | 89.0 | 652.3 | 535.0 | 22.0 | 1.9 | 1.000161 |
| 20000.0 | 188.2 | -9.4 | -10.8 | 89.0 | 641.4 | 533.4 | 18.1 | 1.5 | 1.000158 |
| 20500.0 | 179.6 | -13.4 | -13.2 | 88.3 | 631.0 | 532.3 | 27.8 | 2.9 | 1.000153 |
| 21000.0 | 170.5 | -13.9 | -16.0 | 86.1 | 620.5 | 531.3 | 28.4 | 4.3 | 1.000148 |
| 21500.0 | 162.1 | -13.1 | -15.1 | 56.1 | 610.3 | 531.1 | 25.1 | 5.8 | 1.000144 |
| 22000.0 | 151.1 | -10.5 | -19.7 | 47.8 | 599.3 | 531.3 | 25.7 | 7.2 | 1.000140 |
| 22500.0 | 140.2 | -11.5 | -21.3 | 42.4 | 588.5 | 530.3 | 25.9 | 3.3 | 1.000137 |
| 23000.0 | 129.3 | -12.8 | -24.0 | 37.2 | 578.9 | 529.2 | 25.4 | 9.3 | 1.000134 |
| 23500.0 | 118.3 | -13.3 | -25.4 | 32.1 | 569.5 | 528.1 | | | 1.000131 |

STATION ALTITUDE 4203.62 FEET MSL
 2 JULY 24 1130 MDT
 ASCENSION NO. 13

UPPER AIR DATA
 1040200013
 90"

GEODETIC COORDINATES
 32.97239 LAT DEG
 136.24439 LON DEG

TABLE 21 Cont'd

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | TEMPERATURE AIR DEGREES CENTIGRADE | REL. HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOJND KNOTS | WIND DATA | | INDEX OF REFRACTION |
|--------------------------------|-----------------------|--|----------------------|------------------------------|----------------------------|--------------------------|----------------|---------------------------|
| | | | | | | DIRECTION DEGREES(TW) | SPEED KNOTS | |
| 24300.0 | 416.6 | -14.4 | 29.2 | 550.5 | 525.9 | | | 1.000125 |
| 24500.0 | 405.3 | -15.6 | 32.4 | 552.0 | 525.4 | | | 1.000125 |
| 25000.0 | 400.2 | -16.9 | 34.9 | 548.2 | 523.9 | | | 1.000174 |

STATION ALTITUDE 4003.69 FEET "SL
2 JULY 84
ASCENSION NO. 13

MANDATORY LEVELS
1940210013
NON

1130 MDT

SEDCATIC COORDINATES
32.57239 LAT DEG
136.22453 LON DEG

TABLE 22

| PRESSURE GEOPOTENTIAL | | TEMPERATURE | | REL. HUM. | | WIND DATA | |
|-----------------------|--------|------------------------------|------------------------|-----------|--------------------------|----------------|--|
| MILLIBARS | FEET | AIR DEGREES CENTIGRADE | DEWPOINT CENTIGRADE | PERCENT | DIRECTION DEGREES(TW) | SPEED KNOTS | |
| 500.0 | 4991. | 22.9 | 11.9 | 50. | 174.1 | 11.5 | |
| 500.0 | 5713. | 18.3 | 10.7 | 51. | 186.0 | 9.7 | |
| 750.0 | 8525. | 15.6 | 7.7 | 55. | 242.2 | 9.1 | |
| 700.0 | 10441. | 12.1 | 4.3 | 59. | 238.5 | 9.0 | |
| 650.0 | 12454. | 7.5 | 1.2 | 54. | 337.2 | 9.7 | |
| 600.0 | 14511. | 2.6 | -7 | 80. | 27.8 | 10.0 | |
| 550.0 | 16521. | -2.7 | -4.0 | 90. | 57.3 | 9.0 | |
| 500.0 | 18531. | -7.3 | -9.3 | 89. | 30.9 | 2.2 | |
| 450.0 | 22029. | -10.3 | -19.9 | 67. | 252.1 | 7.3 | |
| 400.0 | 24533. | -15.9 | -28.7 | 25. | | | |

STATION ALTITUDE 1000.00 FEET MSL
2 JULY 64
ASCENSION NO. 140

SIGNIFICANT LEVEL DATA
1040000700
WHITE SANDS

1319 MDT

TABLE 23

| PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET | TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE | REL. HUM. PERCENT |
|--|---|----------------------|
| 980.7 7999.0 | 71.1 14.3 | 36.0 |
| 940.4 4354.7 | 70.8 12.7 | 37.0 |
| 950.0 5010.9 | 75.7 12.2 | 42.0 |
| 796.1 4890.1 | 70.7 10.2 | 51.0 |
| 774.7 509.4 | 70.7 10.0 | 57.0 |
| 760.7 5104.4 | 72.2 9.9 | 58.0 |
| 730.7 5013.4 | 75.7 7.2 | 57.0 |
| 700.0 10402.8 | 72.4 5.9 | 56.0 |
| 637.4 13047.4 | 5.6 .2 | 48.0 |
| 587.0 15386.3 | -1.7 -2.4 | 48.0 |
| 560.0 14041.7 | -1.1 -2.8 | 48.0 |
| 550.0 14577.7 | -2.6 -5.1 | 47.0 |
| 535.4 17656.4 | -3.5 -7.1 | 46.0 |
| 517.1 19553.5 | -5.6 -8.5 | 40.0 |
| 500.0 20619.8 | -6.9 -12.3 | 45.0 |
| 460.7 21046.9 | -8.8 -11.1 | 36.0 |
| 437.1 21122.5 | -11.9 -16.0 | 28.0 |
| 400.0 20588.5 | -17.3 -29.7 | 36.0 |

GEOMETRIC COORDINATES
32.40043 LAT DEG
106.77033 LONG DEG

STATION ALTITUDE 10400 FT MSL
 3 JULY 64 1319 MDT
 ASCENSION NO. 100

UPPER AIR DATA
 10400 FT MSL
 WHITE SANDS

GEOMETRIC COORDINATES
 32.40N LAT DEG
 105.70W LONG DEG

TABLE 24

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | TEMPERATURE AIR DEGREES CENTIGRADE | REL HUM. PERCENT | DENSITY GM/CM ³ | SPEED OF SOUND KNOTS | WIND DATA DIRECTION DEGREES(TN) | SPEED KNOTS | INDEX OF REFRACTION |
|--------------------------------|-----------------------|--|---------------------|-------------------------------|----------------------------|---------------------------------------|----------------|---------------------------|
| 3000.0 | 889.2 | 71.1 | 76.0 | 1.000.0 | 681.0 | 150.0 | 9.0 | 1.000290 |
| 4000.0 | 880.0 | 71.0 | 76.0 | 1.000.8 | 681.8 | 150.1 | 9.0 | 1.000290 |
| 4500.0 | 845.1 | 70.1 | 78.3 | 097.0 | 678.4 | 154.5 | 7.5 | 1.000283 |
| 5000.0 | 809.2 | 75.8 | 42.0 | 084.8 | 675.7 | 150.5 | 7.1 | 1.000280 |
| 5500.0 | 815.6 | 74.4 | 45.1 | 077.0 | 674.1 | 165.0 | 6.8 | 1.000276 |
| 6000.0 | 821.2 | 73.1 | 47.2 | 050.0 | 672.6 | 175.2 | 7.1 | 1.000272 |
| 6500.0 | 807.0 | 71.7 | 49.2 | 047.6 | 671.0 | 184.2 | 7.5 | 1.000267 |
| 7000.0 | 793.0 | 70.4 | 51.0 | 035.6 | 669.5 | 192.6 | 7.0 | 1.000263 |
| 7500.0 | 779.2 | 69.0 | 56.2 | 023.7 | 667.8 | 202.0 | 7.0 | 1.000261 |
| 8000.0 | 745.5 | 67.7 | 57.7 | 011.6 | 666.3 | 230.2 | 6.2 | 1.000256 |
| 8500.0 | 752.0 | 66.6 | 57.6 | 000.0 | 665.0 | 266.7 | 9.0 | 1.000250 |
| 9000.0 | 738.7 | 65.7 | 57.0 | 884.1 | 663.9 | 285.0 | 10.7 | 1.000244 |
| 9500.0 | 725.5 | 64.6 | 56.7 | 873.0 | 662.5 | 295.2 | 11.7 | 1.000238 |
| 10000.0 | 712.5 | 63.5 | 56.3 | 861.0 | 661.1 | 304.9 | 11.3 | 1.000232 |
| 10500.0 | 699.8 | 62.4 | 56.0 | 850.1 | 659.7 | 314.7 | 11.0 | 1.000227 |
| 11000.0 | 687.1 | 61.0 | 56.2 | 839.2 | 658.2 | 325.1 | 10.7 | 1.000223 |
| 11500.0 | 674.6 | 59.7 | 60.7 | 827.4 | 656.6 | 334.2 | 10.2 | 1.000219 |
| 12000.0 | 662.4 | 58.4 | 63.1 | 814.3 | 655.0 | 343.2 | 9.7 | 1.000215 |
| 12500.0 | 650.3 | 57.1 | 65.4 | 802.4 | 653.4 | 353.1 | 9.1 | 1.000211 |
| 13000.0 | 638.5 | 55.7 | 67.8 | 790.7 | 651.8 | 4.7 | 8.5 | 1.000207 |
| 13500.0 | 626.7 | 54.4 | 71.0 | 778.7 | 650.2 | 18.2 | 8.5 | 1.000204 |
| 14000.0 | 615.0 | 53.0 | 74.1 | 773.0 | 648.5 | 31.5 | 9.2 | 1.000201 |
| 14500.0 | 603.6 | 51.7 | 80.4 | 762.4 | 647.0 | 41.0 | 9.0 | 1.000198 |
| 15000.0 | 592.2 | 50.3 | 84.7 | 751.0 | 645.4 | 50.7 | 10.7 | 1.000194 |
| 15500.0 | 581.2 | 48.9 | 88.0 | 741.0 | 644.0 | 54.7 | 9.7 | 1.000191 |
| 16000.0 | 570.2 | 47.6 | 89.0 | 727.8 | 643.7 | 58.6 | 8.6 | 1.000188 |
| 16500.0 | 559.4 | 46.4 | 89.7 | 717.9 | 642.0 | 49.5 | 7.1 | 1.000182 |
| 17000.0 | 548.6 | 45.0 | 90.2 | 705.8 | 641.2 | 35.8 | 6.1 | 1.000178 |
| 17500.0 | 538.5 | 43.6 | 77.0 | 693.4 | 640.7 | 19.6 | 6.7 | 1.000174 |
| 18000.0 | 529.3 | 42.3 | 77.5 | 682.8 | 639.6 | 6.1 | 7.2 | 1.000170 |
| 18500.0 | 519.2 | 40.9 | 70.8 | 672.9 | 638.1 | 355.2 | 6.4 | 1.000167 |
| 19000.0 | 509.2 | 39.5 | 72.3 | 662.0 | 637.1 | 332.5 | 5.5 | 1.000162 |
| 19500.0 | 499.4 | 38.0 | 72.3 | 651.2 | 636.1 | 298.0 | 5.8 | 1.000157 |
| 20000.0 | 489.6 | 36.6 | 74.7 | 640.7 | 635.3 | 280.0 | 7.3 | 1.000153 |
| 20500.0 | 479.2 | 35.2 | 75.7 | 630.4 | 634.6 | 260.8 | 9.1 | 1.000148 |
| 21000.0 | 469.1 | 33.8 | 76.8 | 619.6 | 633.9 | 263.4 | 9.1 | 1.000144 |
| 21500.0 | 459.0 | 32.4 | 74.3 | 608.6 | 632.9 | 258.6 | 8.2 | 1.000141 |
| 22000.0 | 449.0 | 31.0 | 73.3 | 598.2 | 631.9 | 258.8 | 9.1 | 1.000138 |
| 22500.0 | 439.1 | 29.6 | 70.6 | 588.2 | 631.0 | 250.7 | 7.8 | 1.000135 |
| 23000.0 | 429.4 | 28.1 | 78.5 | 578.5 | 630.1 | 260.0 | 7.0 | 1.000133 |

STATION ALTITUDE TOPO. ON FRE. WCL
2 JULY 64 1319 MDT
ASST. STATION NO. 340

UPPER AIR DATA
104000060
WHITE SANDS

GEOMETRIC COORDINATES
32.40047 LAT DEG
106.37033 LON DEG

TABLE 24 Cont'd

| GEOMETRIC ALTITUDE WCL FEET | PRESSURE MILLIBARS | TEMPERATURE AIR DEGREES CENTIGRADE | RFL. HUM. PERCENT | DENSITY GM/CURIC METER | SPEED OF SOUND KNOTS | WIND DATA DIRECTION DEGREES (TN) | SPEED KNOTS | INDEX OF REFRACTION |
|--------------------------------|-----------------------|--|----------------------|------------------------------|----------------------------|--|----------------|---------------------------|
| 71500.0 | 675.8 | -12.0 | 29.6 | 569.8 | 628.6 | 266.0 | 8.1 | 1.000131 |
| 74000.0 | 672.3 | -14.3 | 31.6 | 561.5 | 626.9 | | | 1.000129 |
| 76500.0 | 669.1 | -16.7 | 33.7 | 553.3 | 625.2 | | | 1.000127 |
| 79000.0 | 660.9 | -17.1 | 35.8 | 545.3 | 623.5 | | | 1.000125 |

STATION ALTITUDE 2050.00 FEET MSL
 2 JULY 62
 ASCENSION NC. 74C 1319 MDT

MANDATORY LEVELS
 1040020760
 WHITE SANDS
 TABLE 25

GEODETIC COORDINATES
 37.40043 LAT DEG
 106.77033 LONG DEG

| PRESSURE GEOPOTENTIAL | | TEMPERATURE | | REL. HUM. | | WIND DATA | |
|-----------------------|--------|----------------|-------------------------|-----------|-------------|-----------|----------------|
| MILLIBARS | FEET | ATD DEGREES | SEMPPOINT CENTIGRADE | PERCENT | DEGREES(TN) | DIRECTION | SPEED KNOTS |
| 850.0 | 5007. | 25.7 | 12.2 | 43. | 150.6 | | 7.1 |
| 800.0 | 6746. | 21.4 | 10.4 | 50. | 189.5 | | 7.7 |
| 750.0 | 8566. | 16.5 | 8.1 | 58. | 260.0 | | 8.3 |
| 700.0 | 10482. | 12.6 | 7.0 | 56. | 314.5 | | 11.0 |
| 650.0 | 12505. | 7.0 | 1.7 | 65. | 353.6 | | 9.1 |
| 600.0 | 14646. | 1.3 | -1.6 | 82. | 44.8 | | 10.1 |
| 550.0 | 16029. | -2.0 | -5.8 | 81. | 38.0 | | 6.1 |
| 500.0 | 18092. | -6.0 | -12.7 | 65. | 307.8 | | 5.6 |
| 450.0 | 22076. | -10.6 | -23.9 | 32. | 259.8 | | 7.9 |
| 400.0 | 25914. | -17.3 | -29.7 | 16. | | | |

STATION ALTITUDE 2000.0 FEET ASL
 JULY 34
 ASCENSION NO. 127 1319 MDT

SIGNIFICANT LEVEL DATA

1940000127

S W P

TABLE 26

| PRESSURE MILLIBARS | GEOMETRIC ALTITUDE MSL FEET | TEMPERATURE | | REL. HUM. PERCENT |
|-----------------------|-----------------------------------|----------------|------------------------|----------------------|
| | | AIR DEGREES | DEWPOINT CENTIGRADE | |
| 280.2 | 1927.3 | 30.0 | 16.9 | 43.0 |
| 270.2 | 4311.3 | 27.3 | 12.2 | 35.0 |
| 260.0 | 5013.9 | 26.4 | 11.7 | 40.0 |
| 250.3 | 7465.9 | 19.5 | 10.0 | 54.0 |
| 240.0 | 7721.7 | 13.9 | 9.0 | 53.0 |
| 230.0 | 10502.1 | 12.6 | 5.1 | 50.0 |
| 205.5 | 11620.3 | 9.6 | 1.5 | 57.0 |
| 191.8 | 12068.9 | 1.0 | -1.1 | 95.0 |
| 156.2 | 14654.2 | -2.2 | -4.2 | 96.0 |
| 155.7 | 13152.1 | -4.3 | -9.3 | 58.0 |
| 150.0 | 19447.6 | -5.4 | -11.5 | 57.0 |
| 144.3 | 20261.2 | -7.0 | -15.6 | 46.0 |
| 143.2 | 21955.2 | -11.0 | -25.9 | 28.0 |
| 143.2 | 22523.0 | -10.1 | -23.7 | 20.0 |
| 147.7 | 24615.7 | -16.0 | -23.8 | 12.0 |
| 140.0 | 25088.8 | -16.7 | -25.6 | 45.0 |

STATION ALTITUDE 2997.00 FEET MSL
JULY 14
ACCESSION NO. 127

1319 MDT

UPPER AIR DATA
164000Z127
C " D

GEODETIC COORDINATES
32.46034 LAT DEG
136.42307 LON DEG

TABLE 27

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | TEMPERATURE AIR DEGREES CENTIGRADE | REL. HUM. PERCENT | DENSITY GRAMS PER CM ³ | SPEED OF SOUND KNOTS | DIRECTION DEGREES (TN) | INDEX OF REFRACTION |
|--------------------------------|-----------------------|--|----------------------|---|----------------------------|---------------------------|---------------------------|
| 1097.3 | 120.2 | 14.9 | 40.0 | 1004.1 | 580.8 | 130.0 | 1.000264 |
| 1000.0 | 120.0 | 14.9 | 40.0 | 1004.1 | 580.8 | 130.0 | 1.000264 |
| 950.0 | 119.4 | 14.9 | 38.5 | 994.5 | 577.5 | 134.7 | 1.000281 |
| 900.0 | 118.7 | 14.9 | 40.0 | 982.8 | 575.4 | 134.7 | 1.000277 |
| 850.0 | 118.0 | 14.9 | 42.8 | 970.3 | 574.8 | 132.2 | 1.000274 |
| 800.0 | 117.3 | 14.9 | 45.5 | 958.1 | 573.2 | 139.3 | 1.000271 |
| 750.0 | 116.6 | 14.9 | 48.5 | 944.1 | 571.5 | 234.8 | 1.000267 |
| 700.0 | 115.9 | 14.9 | 51.3 | 934.2 | 570.0 | 205.4 | 1.000264 |
| 650.0 | 115.2 | 14.9 | 54.2 | 922.5 | 568.3 | 218.5 | 1.000260 |
| 600.0 | 114.5 | 14.9 | 57.3 | 910.1 | 566.9 | 239.2 | 1.000255 |
| 550.0 | 113.8 | 14.9 | 50.4 | 898.0 | 565.4 | 256.8 | 1.000253 |
| 500.0 | 113.1 | 14.9 | 53.5 | 886.1 | 563.9 | 230.5 | 1.000249 |
| 450.0 | 112.4 | 14.9 | 56.0 | 874.3 | 562.5 | 290.0 | 1.000245 |
| 400.0 | 111.7 | 14.9 | 55.1 | 862.1 | 561.2 | 299.2 | 1.000242 |
| 350.0 | 111.0 | 14.9 | 50.0 | 849.4 | 560.1 | 216.8 | 1.000239 |
| 300.0 | 110.3 | 14.9 | 50.9 | 837.5 | 558.3 | 237.0 | 1.000234 |
| 250.0 | 109.6 | 14.9 | 57.8 | 825.3 | 557.4 | 239.5 | 1.000219 |
| 200.0 | 108.9 | 14.9 | 58.0 | 814.3 | 556.0 | 11.6 | 1.000214 |
| 150.0 | 108.2 | 14.9 | 52.5 | 803.2 | 554.4 | 18.0 | 1.000211 |
| 100.0 | 107.5 | 14.9 | 57.2 | 792.2 | 552.8 | 20.1 | 1.000208 |
| 50.0 | 106.8 | 14.9 | 71.8 | 781.5 | 551.2 | 24.7 | 1.000205 |
| 0.0 | 106.1 | 14.9 | 76.6 | 770.3 | 549.6 | 28.4 | 1.000202 |
| | | 14.9 | 81.0 | 759.5 | 548.0 | 38.8 | 1.000199 |
| | | 14.9 | 85.5 | 750.3 | 546.4 | 49.8 | 1.000195 |
| | | 14.9 | 86.0 | 739.1 | 545.1 | 57.8 | 1.000192 |
| | | 14.9 | 86.0 | 728.1 | 543.9 | 60.8 | 1.000187 |
| | | 14.9 | 86.0 | 717.1 | 542.6 | 50.7 | 1.000183 |
| | | 14.9 | 81.5 | 706.7 | 541.5 | 31.8 | 1.000173 |
| | | 14.9 | 75.8 | 694.3 | 540.7 | 8.1 | 1.000173 |
| | | 14.9 | 69.8 | 683.1 | 539.8 | 57.1 | 1.000169 |
| | | 14.9 | 57.7 | 672.1 | 538.8 | 36.5 | 1.000165 |
| | | 14.9 | 57.3 | 661.3 | 537.3 | 331.2 | 1.000162 |
| | | 14.9 | 55.0 | 650.5 | 536.8 | 212.7 | 1.000155 |
| | | 14.9 | 52.4 | 639.2 | 535.3 | 234.0 | 1.000153 |
| | | 14.9 | 48.0 | 628.3 | 535.2 | 252.7 | 1.000149 |
| | | 14.9 | 38.0 | 616.5 | 533.3 | 271.4 | 1.000144 |
| | | 14.9 | 30.0 | 605.2 | 532.3 | 255.4 | 1.000141 |
| | | 14.9 | 27.4 | 594.7 | 531.0 | 259.5 | 1.000135 |
| | | 14.9 | 20.3 | 584.3 | 530.0 | 251.5 | 1.000134 |
| | | 14.9 | 20.7 | 573.5 | 529.4 | 254.0 | 1.000132 |

STATION ALTITUDE 127.70 FEET MSL
 JULY 8, 1967
 ASCENSION NO. 127

UPPER AIR DATA
 1940000127
 S V R

TABLE 27 Cont'd

GEODETIC COORDINATES
 32.60034 LAT DEG
 106.42307 LONG DEG

| BATHY THERMOGRAPHIC ALTITUDE FATHOMS | PRESSURE MILLIBARS | TEMPERATURE °C | TEMPERATURE °FAHRENHEIT | RELAT. HUMIDITY PERCENT | DENSITY GM/CM ³ | SPEED OF SOUND M/SEC | WIND DIRECTION DEGREES (T) | WIND SPEED KNOTS | INDEX OF REFRACTION |
|--|-----------------------|-------------------|----------------------------|----------------------------|-------------------------------|----------------------------|-------------------------------|---------------------|---------------------------|
| | | | | | | | | | |
| 2350.0 | 429.3 | -12.9 | -28.4 | 25.5 | 570.2 | 528.7 | 272.8 | 9.1 | 1.000170 |
| 2400.0 | 417.9 | -14.3 | -26.5 | 28.5 | 567.0 | 527.0 | | | 1.000125 |
| 2450.0 | 409.6 | -15.7 | -28.8 | 31.3 | 557.9 | 525.3 | | | 1.000127 |
| 2500.0 | 401.4 | -16.0 | -26.3 | 42.5 | 544.7 | 524.2 | | | 1.000125 |

STATION ALTITUDE 3927.0 FEET MSL
 2 JULY 84
 ASCENSION NO. 127 1319 MDT

WIND DATA
 1940060127

GEODETIC COORDINATES
 32.68334 LAT DEG
 136.42337 LON DEG

TABLE 28

| PRESSURE GEOPOTENTIAL MILLIBARS | TEMPERATURE AIR DEGREES CENTIGRADE | REL. HUM. PERCENT | WIND DATA | |
|------------------------------------|--|----------------------|---------------------------|----------------|
| | | | DIRECTION DEGREES (IN) | SPEED KNOTS |
| 850.0 | 25.4 | 40. | 162.8 | 9.3 |
| 800.0 | 21.5 | 50. | 205.1 | 7.8 |
| 750.0 | 15.7 | 51. | 269.6 | 3.9 |
| 700.0 | 12.6 | 60. | 314.7 | 11.7 |
| 650.0 | 7.2 | 53. | 19.1 | 13.4 |
| 600.0 | 2.0 | 83. | 42.9 | 13.5 |
| 550.0 | -2.5 | 82. | 37.4 | 5.9 |
| 500.0 | -5.6 | 67. | 315.5 | 5.9 |
| 450.0 | -10.7 | 25. | 259.6 | 7.9 |
| 400.0 | -16.7 | 45. | | |

GEODETIC COORDINATES
 32.57209 LAT DEG
 105.29639 LON DEG

SIGNIFICANT LEVEL DATA

134020016
 20M

TABLE 29

STATION ALTITUDE 4073.7 FEET MSL
 1 JULY 24
 REVISION NO. 1- 1319 MDT

| PRESSURE MILLIBARS | GEOMETRIC ALTITUDE MSL FEET | TEMPERATURE | | REL. HUM. PERCENT |
|-----------------------|-----------------------------------|------------------------------|------------------------|----------------------|
| | | AIR DEGREES CENTIGRADE | DEWPOINT CENTIGRADE | |
| 578.2 | 4073.7 | 11.7 | 14.4 | 35.0 |
| 352.6 | 4559.2 | 27.5 | 11.7 | 53.0 |
| 350.0 | 4979.7 | 25.2 | 11.5 | 43.0 |
| 707.6 | 4045.6 | 17.2 | 3.6 | 57.0 |
| 725.2 | 3980.7 | 14.3 | 3.0 | 56.0 |
| 700.0 | 17451.3 | 13.1 | 3.2 | 51.0 |
| 527.2 | 13458.4 | 3.4 | -4 | 50.0 |
| 496.2 | 14276.9 | 1.3 | -3 | 35.0 |
| 579.2 | 15521.0 | 2 | -2.0 | 35.0 |
| 561.6 | 16209.5 | -0.9 | -7.9 | 52.0 |
| 540.2 | 17410.5 | -3.0 | -5.3 | 56.0 |
| 400.0 | 19413.1 | -5.9 | -10.9 | 73.0 |
| 478.6 | 20547.5 | -7.0 | -16.4 | 47.0 |
| 451.4 | 22007.5 | -9.3 | -21.5 | 35.0 |
| 430.6 | 23226.3 | -11.7 | -25.1 | 29.0 |
| 400.0 | 25067.1 | -15.8 | -28.0 | 37.0 |

STATION ALTITUDE 4200.0 FEET MSL
JULY 24 1319 MDT
ASCENSION NO. 1

UPPER AIR DATA
1943200014
90°

TABLE 30

| GEOMETRIC ALTITUDE FSL FEET | PRESSURE MILLIBARS | TEMPERATURE DEGREES CENTIGRADE | REL. HUM. PERCENT | DENSITY GRAMS PER CUBIC METER | SPEED OF SOUND KNOTS | WIND DATA DIRECTION DEGREES (TN) | SPEED KNOTS | INDEX OF REFRACTION |
|--------------------------------|-----------------------|--------------------------------------|----------------------|-------------------------------------|----------------------------|--|----------------|---------------------------|
| 4200.0 | 878.9 | 71.7 | 75.0 | 997.3 | 532.5 | 130.7 | 12.0 | 1.000289 |
| 4500.0 | 866.1 | 27.9 | 77.7 | 997.5 | 578.1 | 131.5 | 11.2 | 1.000291 |
| 4800.0 | 854.4 | 26.1 | 76.1 | 982.7 | 676.0 | 131.2 | 10.4 | 1.000277 |
| 5100.0 | 844.6 | 24.7 | 74.7 | 970.6 | 674.6 | 135.7 | 9.6 | 1.000273 |
| 5400.0 | 834.9 | 23.2 | 73.2 | 958.8 | 672.7 | 137.6 | 8.8 | 1.000270 |
| 5700.0 | 825.1 | 21.7 | 71.7 | 946.4 | 671.0 | 137.5 | 8.1 | 1.000265 |
| 6000.0 | 815.9 | 20.2 | 70.2 | 934.7 | 669.3 | 132.7 | 5.9 | 1.000262 |
| 6300.0 | 806.4 | 18.5 | 68.5 | 923.2 | 667.5 | 126.8 | 6.0 | 1.000255 |
| 6600.0 | 796.0 | 17.3 | 66.7 | 911.9 | 665.6 | 126.0 | 5.1 | 1.000256 |
| 6900.0 | 785.1 | 15.3 | 64.9 | 899.7 | 664.5 | 126.5 | 5.5 | 1.000251 |
| 7200.0 | 773.9 | 13.3 | 63.0 | 886.1 | 663.5 | 125.1 | 7.9 | 1.000247 |
| 7500.0 | 762.7 | 11.3 | 61.2 | 872.4 | 662.3 | 125.5 | 7.5 | 1.000244 |
| 7800.0 | 751.7 | 9.3 | 59.1 | 858.5 | 661.4 | 127.9 | 7.2 | 1.000236 |
| 8100.0 | 740.0 | 7.0 | 57.2 | 844.5 | 660.3 | 121.7 | 7.2 | 1.000224 |
| 8400.0 | 728.3 | 4.7 | 55.3 | 830.9 | 658.9 | 139.0 | 7.7 | 1.000221 |
| 8700.0 | 716.7 | 2.4 | 53.7 | 817.3 | 657.4 | 139.2 | 8.4 | 1.000217 |
| 9000.0 | 705.2 | 0.1 | 52.0 | 803.8 | 655.8 | 157.4 | 2.2 | 1.000214 |
| 9300.0 | 693.8 | -2.2 | 50.2 | 791.4 | 654.3 | 2.5 | 2.1 | 1.000210 |
| 9600.0 | 682.4 | -4.4 | 48.4 | 779.6 | 652.8 | 7.5 | 9.1 | 1.000206 |
| 9900.0 | 671.0 | -6.6 | 46.6 | 767.7 | 651.2 | 15.3 | 3.7 | 1.000203 |
| 10200.0 | 659.6 | -8.8 | 44.8 | 755.9 | 649.8 | 27.8 | 3.6 | 1.000201 |
| 10500.0 | 648.2 | -11.0 | 43.0 | 744.1 | 648.3 | 33.4 | 3.7 | 1.000199 |
| 10800.0 | 636.8 | -13.2 | 41.2 | 732.3 | 646.9 | 51.1 | 2.1 | 1.000195 |
| 11100.0 | 625.4 | -15.4 | 39.4 | 720.5 | 645.4 | 55.7 | 2.1 | 1.000191 |
| 11400.0 | 614.0 | -17.6 | 37.6 | 708.7 | 643.9 | 53.7 | 3.2 | 1.000185 |
| 11700.0 | 602.6 | -19.8 | 35.8 | 696.9 | 642.1 | 66.0 | 7.0 | 1.000177 |
| 12000.0 | 591.2 | -22.0 | 34.0 | 685.1 | 641.0 | 27.7 | 5.0 | 1.000177 |
| 12300.0 | 579.8 | -24.2 | 32.2 | 673.3 | 639.3 | 8.6 | 5.4 | 1.000175 |
| 12600.0 | 568.4 | -26.4 | 30.4 | 661.5 | 637.3 | 152.5 | 6.9 | 1.000171 |
| 12900.0 | 557.0 | -28.6 | 28.6 | 649.7 | 635.3 | 138.1 | 5.0 | 1.000167 |
| 13200.0 | 545.6 | -30.8 | 26.8 | 637.9 | 633.3 | 128.1 | 5.5 | 1.000163 |
| 13500.0 | 534.2 | -33.0 | 25.0 | 626.1 | 631.3 | 114.9 | 5.6 | 1.000159 |
| 13800.0 | 522.8 | -35.2 | 23.2 | 614.3 | 629.3 | 132.2 | 3.2 | 1.000154 |
| 14100.0 | 511.4 | -37.4 | 21.4 | 602.5 | 627.3 | 122.2 | 2.0 | 1.000149 |
| 14400.0 | 500.0 | -39.6 | 19.6 | 590.7 | 625.3 | 130.5 | 2.4 | 1.000145 |
| 14700.0 | 488.6 | -41.8 | 17.8 | 578.9 | 623.1 | 271.7 | 2.8 | 1.000142 |
| 15000.0 | 477.2 | -44.0 | 16.0 | 567.1 | 621.1 | 263.4 | 2.8 | 1.000137 |
| 15300.0 | 465.8 | -46.2 | 14.2 | 555.3 | 619.1 | 250.2 | 10.1 | 1.000135 |
| 15600.0 | 454.4 | -48.4 | 12.4 | 543.5 | 617.1 | 255.4 | 10.8 | 1.000131 |
| 15900.0 | 443.0 | -50.6 | 10.6 | 531.7 | 615.1 | | | 1.000127 |

STATION ALTITUDE 403.6 FEET MSL
 1319 MDT
 ASCENDING NO. 1

UPPER AIR DATA
 1940200116
 90M

SEODETIC COORDINATES
 32.57209 LAT DEG
 106.27459 LON DEG

TABLE 30 Cont'd

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | TEMPERATURE FIP DEGREES CENTIGRADE | REL. HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | WIND DATA DIRECTION DEGREES(TN) | SPEED KNOTS | INDEX OF REFRACTION |
|--------------------------------|-----------------------|--|----------------------|------------------------------|----------------------------|---------------------------------------|----------------|---------------------------|
| 24000.0 | 417.5 | -15.5 | 72.4 | 560.5 | 527.3 | | | 1.000129 |
| 24500.0 | 409.2 | -15.2 | 74.5 | 552.8 | 525.8 | | | 1.000127 |
| 25000.0 | 401.1 | -15.0 | 76.7 | 544.3 | 524.2 | | | 1.000125 |

MANDATORY LEVELS
1840200014
32.57209 LAT DEG
106.29439 LON DEG

STATION ALTITUDE 4000 FT MSL
2 JULY 54
ASCENSION NO. 14

TABLE 31

| PRESSURE GEOPOTENTIAL MILLIBARS | TEMPERATURE AIR DEGREES CENTIGRADE | REL. HUM. PERCENT | WIND DATA | |
|------------------------------------|---------------------------------------|----------------------|---------------------------|----------------|
| | | | DIRECTION DEGREES (TN) | SPEED KNOTS |
| 950.0 | 4275. | 40. | 137.1 | 10.5 |
| 900.0 | 5715. | 50. | 178.3 | 7.5 |
| 850.0 | 5535. | 50. | 271.0 | 5.7 |
| 800.0 | 10457. | 51. | 322.7 | 7.2 |
| 750.0 | 12457. | 51. | 2.3 | 7.1 |
| 700.0 | 14523. | 33. | 42.2 | 8.9 |
| 650.0 | 15213. | 73. | 37.1 | 5.1 |
| 600.0 | 19756. | 73. | 317.5 | 5.3 |
| 550.0 | 22077. | 35. | 251.9 | 9.3 |
| 500.0 | 25025. | 37. | | |

END

FILMED

9-64